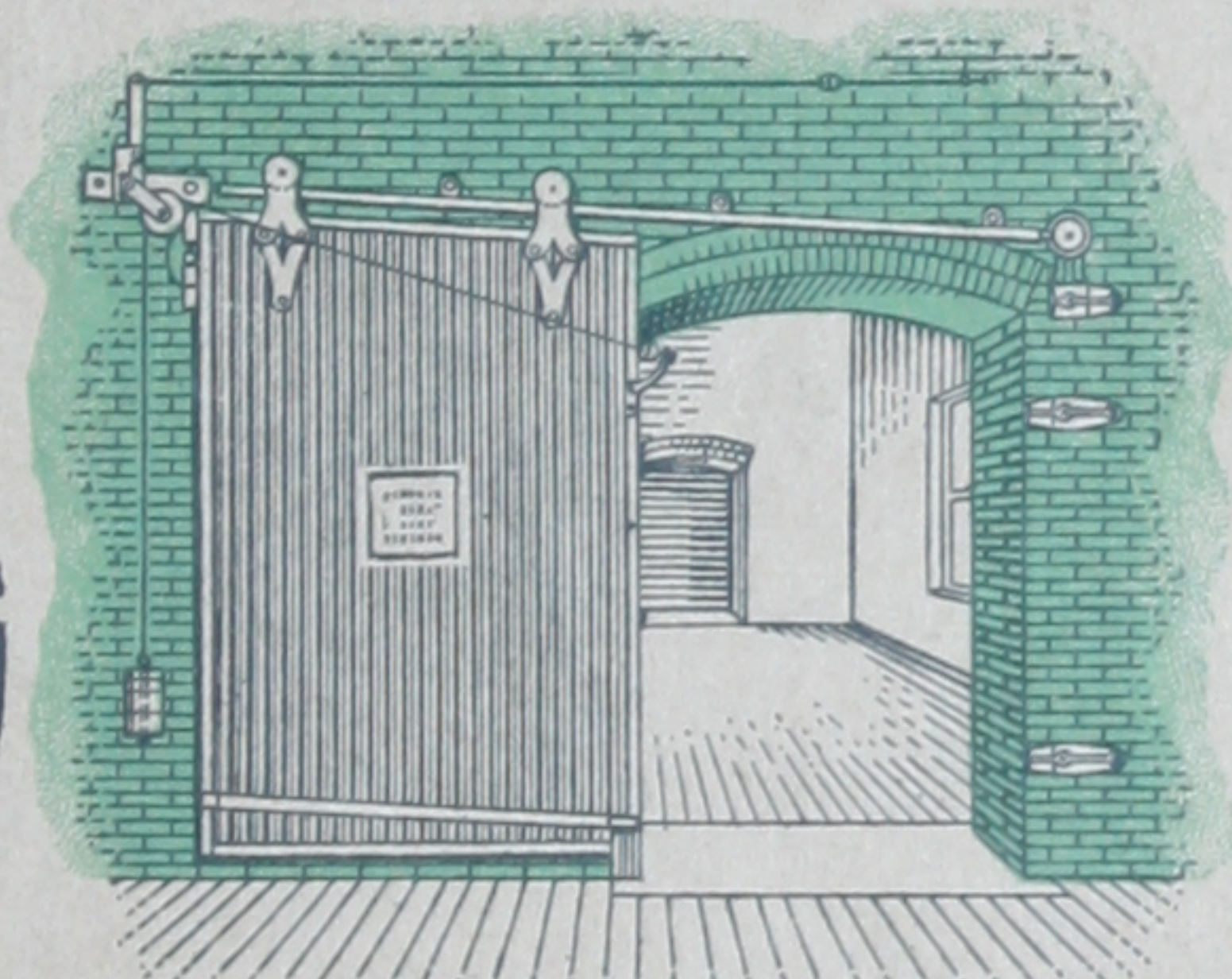


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MAY 14 1918

# EVANS "ALMETL" FIRE DOORS & SHUTTERS AND THE FAMOUS "STAR" VENTILATORS



EVANS "ALMETL" FIRE DOOR

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POWELL EVANS, PRESIDENT.

## MERCHANT & EVANS Co.

NEW YORK

PHILADELPHIA

WHEELING

BALTIMORE

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KANSAS CITY





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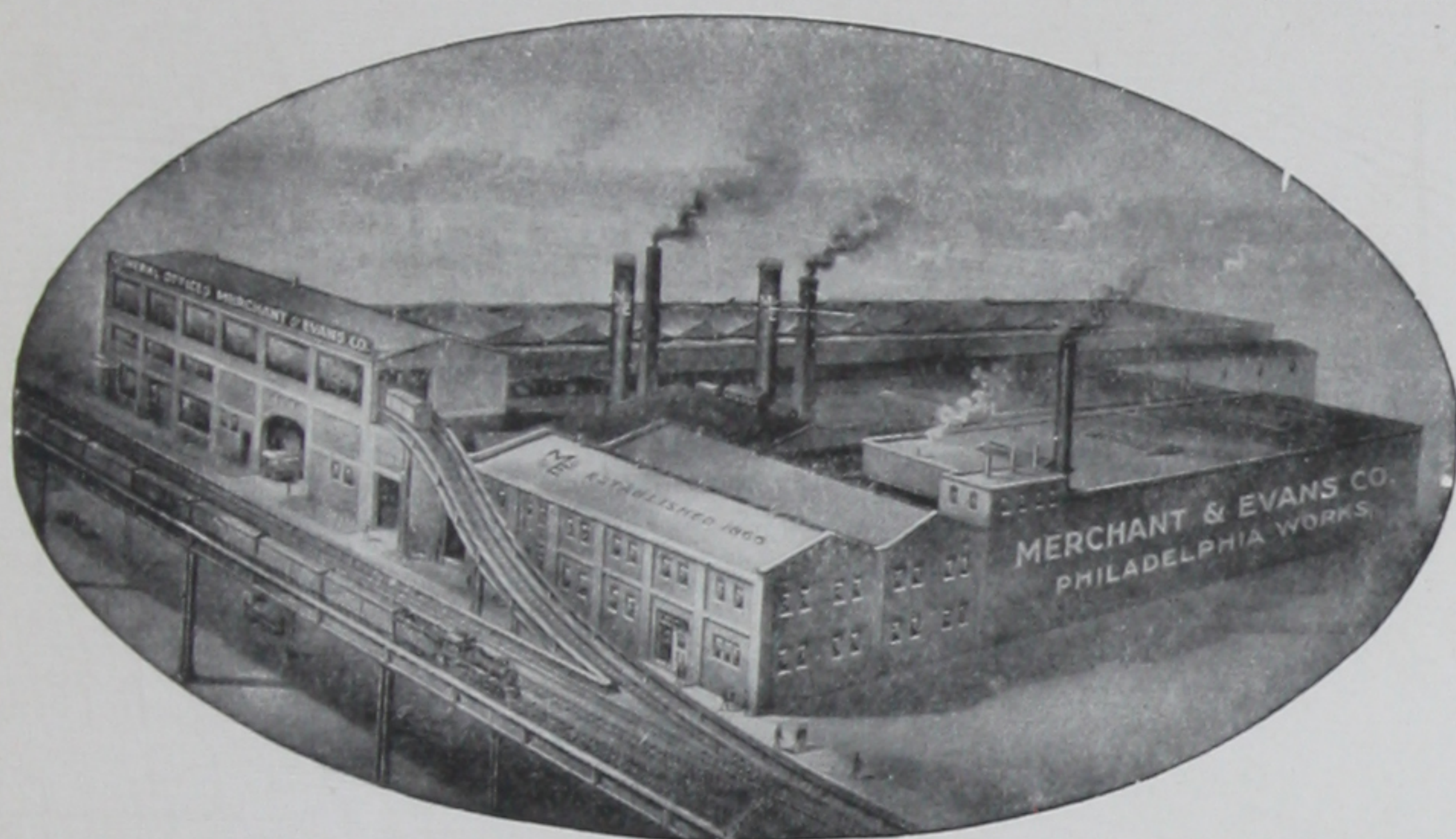
CCA





# EVANS "ALMETL" FIRE DOORS AND SHUTTERS

(PAT. PENDING)



OUR PHILADELPHIA PLANT

Form an impassable fire barrier.  
Constructed of steel and asbestos.  
Rigid, non-warping and indestructible.  
No wood to rot; no tin to rust.

## THE WORLD'S STANDARD

Fully approved by Underwriters' Laboratories, Chicago, the Factory Mutual Laboratories, Boston, and National, State and Municipal Officials everywhere.

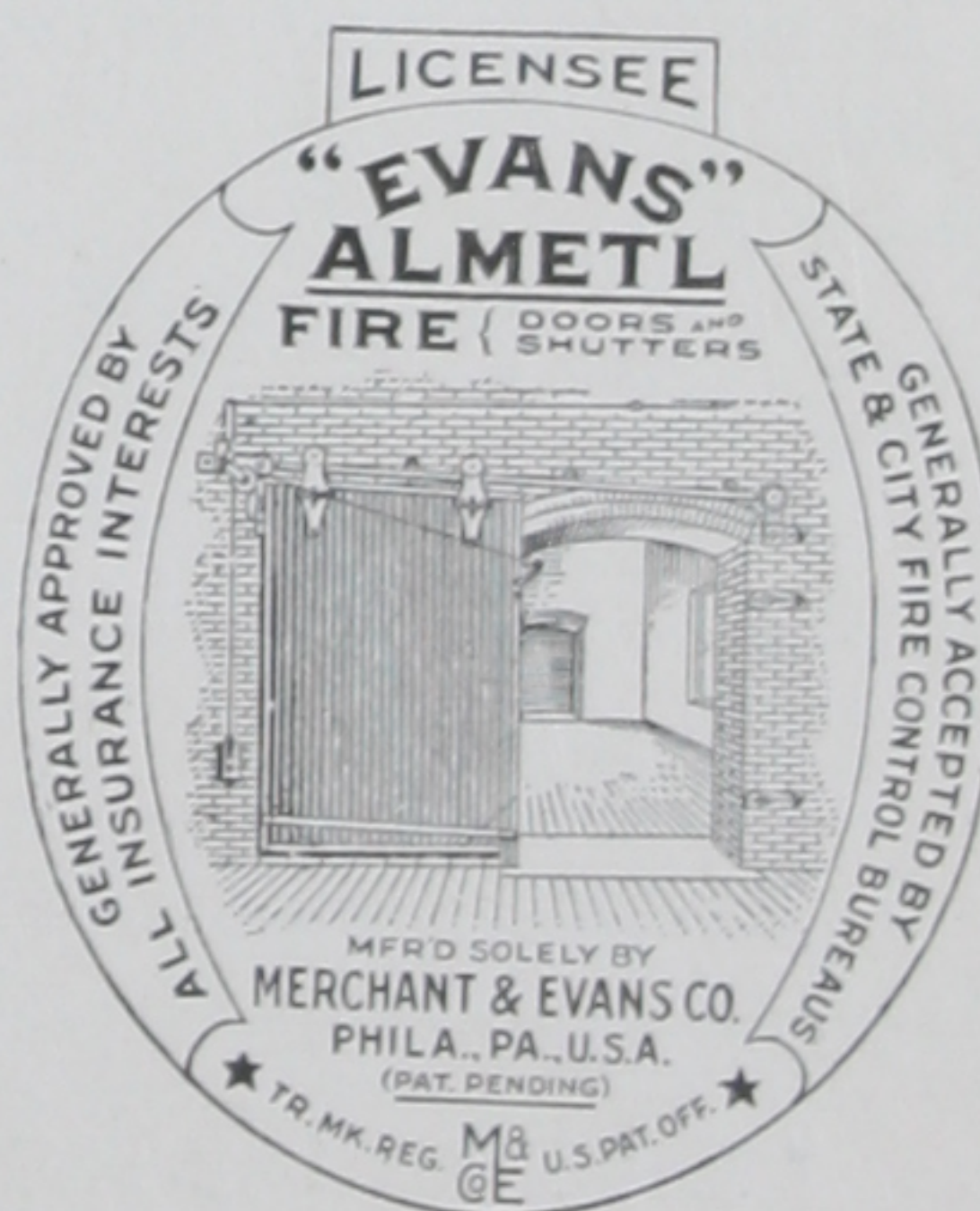
## SERVICE AND FACILITIES

We have a large number of thoroughly experienced contracting and erecting Licensees established in all parts of the country. Herewith is an illustration of the cut used by our Licensees on their stationery. It is your assurance that they have been selected by us as fully competent to care for the erection of our Evans "Almetl" Fire Doors, and Evans "Almetl" Fire Shutters, to accord with all Underwriters' requirements.

### Look for this cut on their Stationery

If you are not in touch with any of our Licensees, please write to our nearest office and you will be promptly furnished with full and complete information, and arrangements made for estimating on your requirements.

(NOTE.—Index on bottom of page 6.)



# MERCHANT & EVANS CO.

NEW YORK

PHILADELPHIA

WHEELING

BALTIMORE

CHICAGO

ATLANTA

ST. LOUIS

CLEVELAND

KANSAS CITY



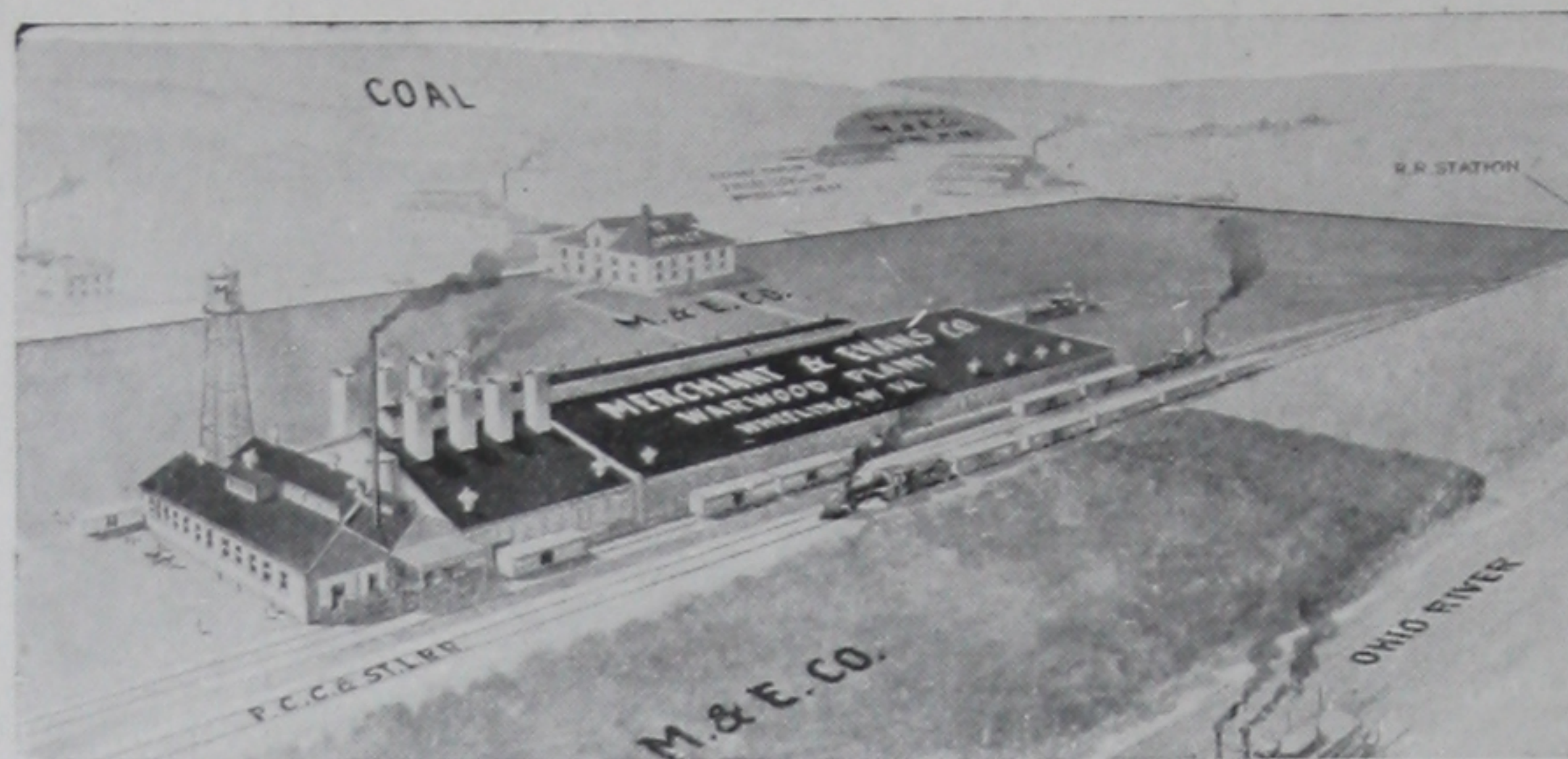
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BY

MERCHANT & EVANS CO., PHILA.

EVERYTHING IN METALS





WHEELING (WARWOOD), W. VA., WORKS AND WAREHOUSE—ONE OF OUR THREE LARGE PLANTS.

## The Importance of Fire Doors and Shutters

is indicated by the fact that one-third of all fire insurance charges in cities are for exposure charges.

Yet despite this warning, despite the evidence of every big fire that the risk is reduced to a minimum by the installation of proper doors and shutters, there was no well made, well designed metal covering for unprotected openings that met the Fire Hazard adequately, until we originated the Evans "Almetl" Fire Doors and Shutters.

Approved by Underwriters' Laboratories and by officials everywhere because of their proven superiority, Evans "Almetl" doors and shutters have other great advantages. They are capable of economic and systematic shop production, they are adaptable to all conditions in plants of every character, and they are lowest in maintenance cost.

Through our Branches and numerous experienced contracting and erecting Licensees, distributed throughout the United States, we are able to give a service to architects, builders, and owners of properties, that solves the problem of the unprotected or improperly protected opening.

## Most Fires are Preventable and Controllable

One of the principal remedies is to install fire doors to protect exposed openings in Division Walls or Fire Walls, of either old or new buildings.

An approved installation of Evans "Almetl" Fire Doors will reduce the annual insurance rate on property.

The Regulations of the National Board of Fire Underwriters, for the protection of openings in walls and partitions against fire, specifically state that:

"The great importance of Fire Walls as a safeguard to life and in preventing the spread of fire, and the fact that they are liable to be severely exposed to fire for considerable periods, makes it essential that all openings in such walls be protected by the most efficient methods."

The Evans "Almetl" Fire Door is of rigid, all-steel, indestructible construction. No tin to rust, no wood to rot, no thin covering to bruise; it has been given the very highest Standard Class A Grade Approval issued by the Underwriters' Laboratories, Inc., of Chicago, and is fully approved by the Mill (Mutual) Boston Laboratories. It has been proved by experience and actual tests to be the best fire door on the market.

Thousands of wood-core tin-clad fire doors have been replaced because of the effect of dry rot. Why pay double? The Evans "Almetl" Fire Door will last indefinitely and requires no repairs or expense to maintain.

You can avoid unnecessary charges for fire hazard by installing the Evans "Almetl" Fire Doors or Shutters.

MERCHANT & EVANS COMPANY,  
POWELL EVANS, *President.*





# To Architects, Contractors, Property Owners, and State and City Police and Safety Departments



Evans "Almetl" Fire Doors, after a series of rigid tests, were placed in the very highest Standard Class A grade (both Fire and Accident), by the Underwriters' Laboratories, Chicago, Ill., and have received the very best approval from the Factory Mutual Laboratories, Boston. We strongly recommend that you specify these doors wherever maximum reduction in insurance rates is desired, lowest maintenance costs, and the highest degree of protection to both life and property.

Those foremost in fire protection and prevention affairs throughout the country have recognized the superiority of our doors, as we have received over two hundred approvals from National, State and Municipal officials. A duplicate copy of one of these approvals is shown in cut.

Unlike other types of doors that are made by hundreds of concerns in a multitude of places and under all sorts of conditions, the Evans "Almetl" Doors are built in one central factory, and constantly supervised by the Underwriters' Laboratories Inspectors. Modern high-powered machinery and the most skillful labor obtainable is employed to produce absolute uniformity of construction.

It is claimed that standard tin-clad fire doors must contain at least 10% of moisture in their wood core to be unaffected by dry rot, but it is to be further noted that when the wood core contains more than 10% of moisture the intense heat from a fire will generate gases that can exert sufficient pressure on the seams or joints of the tin to burst them apart, whereas the "Almetl" Doors are so well and strongly made that they should last indefinitely and without any repairs.

Our doors will eventually pay for themselves in the insurance reduction allowed for their installation, and the practical absence of any maintenance charges. They are unquestionably the latest and very best building opening coverings on the market, and afford a maximum degree of protection against both fire and accident. They also cost less to install than the standard tin-clad doors.

The Evans "Almetl" Fire Shutters have received the highest approvals from the Underwriters' Laboratories, Chicago, and from the Factory Mutual Laboratories, Boston, and wherever Fire Shutters are needed you can unhesitatingly specify them as suitable for the most exacting conditions.

Please note carefully that approval by the Underwriters' Laboratories covers Stock Insurance only, whereas we also have Mutual Insurance approval through the Factory Mutual Laboratories of Boston.

In addition to our approvals from the Chicago and Boston Laboratories, we have over two hundred approvals from prominent officials directly interested in fire protection and prevention affairs, thus constituting a far greater number and a better class of approvals than extended to the manufacturers of any other fire doors on the market.

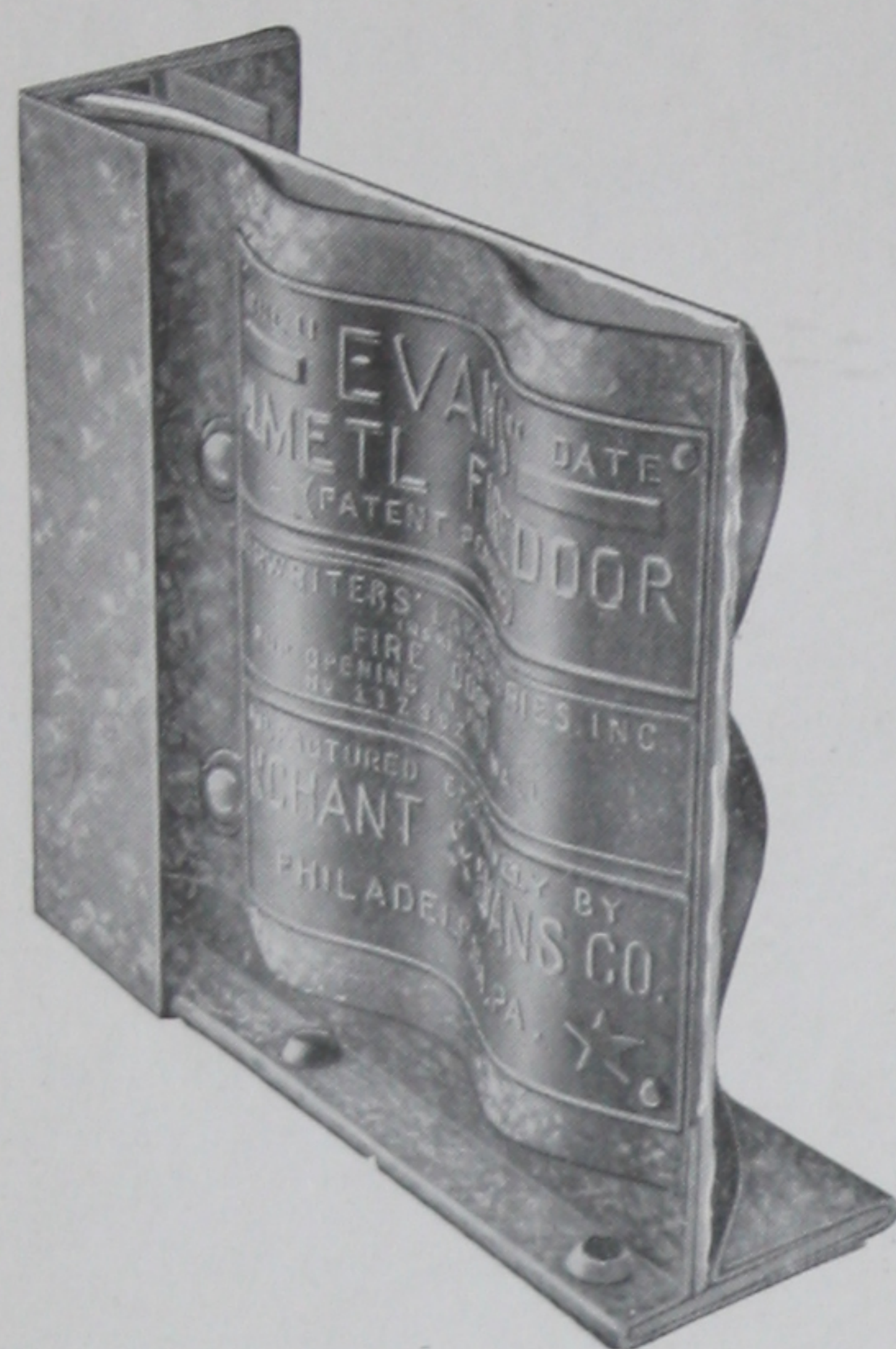
## SPECIFICATIONS

We suggest that you adopt the following specifications, which are similar to those agreed upon by the Pennsylvania Railroad Co., and intended for early adoption by the United States Government.

"Furnish and erect all Fire Doors, and/or Fire Shutters, same to be of the Merchant & Evans make or approved equal, "Almetl" type, and will be automatic self-closing.

"The Doors will be made of two thicknesses of No. 24 gauge corrugated galvanized steel, interlined with 1/16 inch asbestos, in a rigid frame of continuous 3/16 x 2 1/2 inch bar steel, bound in a No. 22 gauge galvanized cover. Proper provision to be made for expansion and contraction without distorting the frame, and where necessary on account of size, the Doors must have intermediate braces. All Doors are to be equipped with substantial approved Hardware, and each Door shall have the Underwriters' Label attached, and also that of the manufacturer."





## GENERAL DESCRIPTION

# EVANS "ALMETL" FIRE DOORS

(PAT. PENDING)

Note the construction as shown by adjoining illustration; a double panel of heavy corrugated galvanized steel, lined with the best grade of sheet asbestos and bound in a rigid, continuous frame of  $3/16'' \times 2\frac{1}{2}''$  bar steel.

This frame is reinforced on all edges by an extra heavy binder of galvanized steel, thus forming a box for the panel and preventing the damage that always occurs to fire doors of other types.

There is ample provision for expansion and contraction so that any distortion or warping of the door is impossible. The construction provides a series of regular air spaces, properly insulated and covering the entire area of the door. This reduces radiation of heat to a minimum.

The cross-laid corrugated sheets, rigidly attached to the reinforced frame, makes the Evans "Almetl" Door by far the best and strongest on the market; while the absence of any wood core makes it considerably lighter in weight than the standard three-ply tin-clad fire door.

The Evans "Almetl" Fire Door is of attractive appearance, and when painted to harmonize with its surroundings it is a far better looking door than any other

type that could be used for the same purpose and under like conditions. There is nothing to bulge and become unsightly, as with tin-clad wooden doors.

It is also very durable and does not require repairs even when installed in large warehouses where there is constant hauling of trucks through openings or doorways. On the other hand, the accidental impact of trucks against tin-clad doors has always resulted in damage to the thin tin covering of the wood core doors and frequently results in punctures that must be immediately repaired if the door is to act as an efficient fire stop.

Under actual tests our Evans "Almetl" Fire Door has successfully withstood the intense heat of a fire of 2000 degrees Fahrenheit.

## FACTS ABOUT EVANS "ALMETL" FIRE DOORS

1. Evans "Almetl" Fire Doors average in weight not more than five pounds per square foot and therefore weigh much less than standard three-ply wood core tin-clad fire doors.
2. There are no maintenance charges to be considered, as they contain no wood or other material subject to deterioration.
3. The structural details are always in full view.
4. They are designed to withstand intense heat for long periods of time, and yet radiate it to only a slight degree.
5. The rigid construction offers maximum resistance to any sudden lowering of temperature, or impact force from application of high pressure fire streams.
6. The Evans "Almetl" Fire Doors are of more attractive appearance than tin-clad fire doors and positively much more durable.
7. The improved design of the "Almetl" Door has reduced the radiation of heat and passage of flames to a minimum.
8. Evans "Almetl" Fire Doors can be used with any style of Underwriters' Approved Fire Door Hardware, and with any type of operating device used for solid panel freight or pier shed doors. It is necessary, however, that we furnish a few special fixtures with all our doors, owing to their original and improved design.
9. In addition to the numerous air passages formed by the cross-laid corrugated steel panels, there is a lining between these panels of asbestos roll board, extending the full size of the door.
10. The heavy reinforcing steel binder on the edges prevents damage to frame from trucking.
11. Evans "Almetl" Fire Doors can be fitted with metal trim to match interior decorative effects.
12. We can readily supply our doors with wired glass panels, or with wicket gates, or recessed at top for mono-rail or overhead trolley track.



Fac-simile of Underwriters' Label placed on Evans "Almetl" Fire Doors



# REGULATIONS FOR THE PROTECTION OF OPENINGS IN WALLS AND PARTITIONS AGAINST FIRE

Adopted and promulgated by the  
**NATIONAL FIRE PROTECTION ASSOCIATION**  
1917

## *Some Extracts from Proceedings of Nineteenth Annual Meeting*

### CLASS A.

Calls for the protection of openings in division wall between separate buildings or sections of buildings and "only such Fire Retardants are included in this class as have been shown by experience and tests to furnish a high degree of fire protection, etc." (EVANS "ALMETL" FIRE DOORS ARE IN CLASS A.)

#### MASONRY AT WALL OPENINGS:

(A) Walls to be plumb and true, and present smooth masonry surfaces without any wood or combustible trim at openings.  
(B) Where Swinging—fire doors shut into a brick rabbet in wall, rabbet to be at least 3 x 4 inches, and to have true sides and angles so that the door will close snugly.

#### SILLS:

On account of the number of methods specified, inspection departments having jurisdiction should be consulted before the installation of sills.

#### LINTELS:

Stone or tin-clad, wooden lintels are **not** approved. A brick arch is preferable, but lintels made of steel, cast iron, or reinforced concrete may be used if constructed as specified by the National Fire Protection Association. Where steel lintels are used, sliding fire doors must overlap the brick wall 4 inches above upper edge of steel unless such lintels are fireproofed in a manner satisfactory to the inspection department having jurisdiction.

#### WALL FRAMES:

Steel wall frames are of particular value where swinging Tin-clad fire doors are mounted flush with the face of the wall, and for mounting Steel fire doors. They provide for a tight fitting door, serve to protect the brickwork from injury, furnish a secure fastening for the hardware and are neat in appearance. Where used they should be constructed and installed in accordance with National Fire Association rules.

#### MEASUREMENTS:

Openings in walls to be carefully measured before the doors are built. Where wall frames are **not** used, the measurements are to be from the edges of the brickwork, irrespective of any steel work in the opening. Where wall frames are employed, the size of the door is determined by the size of the opening in the frame.

**Note.**—Openings in wall frequently vary from the sizes given on plans. It is important, therefore, that the openings be measured before the doors are built.

#### NORMALLY CLOSED DOORS:

Are arranged to close by gravity or equipped with an approved door check or device to insure proper closing after the door has been opened.

#### AUTOMATIC DOORS:

To be operated by **at least one approved** releasing device above the door and close to the ceiling. Where desired the door may also be arranged to close by the operation of an additional releasing device near the top of the door opening.

#### CARE AND MAINTENANCE:

Fire doors should be ready for instant use at all times. Therefore, it is necessary to keep the surroundings clear of everything that would be likely to obstruct or interfere with their free operation. They should be kept closed and fastened nights, Sundays and Holidays and whenever the openings are not in use. The following notice should be posted at each opening protected by fire doors, preferably stenciled on each side of the door itself "Keep this Fire Door shut." Doors of the sliding pattern should be stenciled on both sides with the words "To Open," and an arrow indicating the direction. Swinging doors should be stenciled, "Turn Knob and Push" (or pull), or "Press down lever and push" (or pull), as the case may be.

#### PAINTING:

When subject to rapid deterioration as the result of corrosion, tinclad and sheet metal doors to be given at least two good coats of paint which is satisfactory to inspection departments having jurisdiction.

**Note.**—Doors of this type do not require painting where they are used in clean, dry localities.

#### APPLICATION:

Sliding doors should overlap sides and top of wall opening 4 inches. Top of door to conform to incline of track,  $\frac{3}{4}$  inch to 1 foot. (See paragraph on Lintels.)

Swinging Door to shut into rabbet in wall, into approved wall frame, or when acceptable to inspection department having jurisdiction, doors may overlap sides and top of wall openings as required for sliding doors—

Vertical doors to overlap sides and top of wall opening 4 inches. (See paragraph on Lintels.)

### CLASS B.

Calls for the protection of openings in enclosures to vertical communications through buildings. "These enclosures \* \* \* are of the greatest importance in safeguarding life, are next in importance to fire walls in preventing the spread of fire and require the use of doors that can be reliably operated at exits, and of fire retardants of a high order at all wall openings" \* \* \* (FIRE RETARDANTS FULFILLING THE CLASS A REQUIREMENTS CAN BE EMPLOYED FOR OPENINGS INTO VERTICAL SHAFTS WHERE THE TYPE AND PATTERN ARE SUITABLE.)

#### MASONRY AT WALL OPENINGS:

Walls to be plumb and true, and present smooth masonry surface without combustible trim at openings.  
Where swinging \* \* \* fire doors shut into masonry rabbets, rabbets to be at least 2 x 4 inches, and to have true sides and angles so that door will close snugly into same.

#### SILLS, LINTELS AND WALL FRAMES:

Any of the flush sills, and any lintels and wall frames specified for Class A openings may be used in shaft openings, but inspection department having jurisdiction should be consulted.

#### MEASUREMENTS:

Openings in walls to be carefully measured before doors are built and maximum dimensions used in determining overlap of doors. Where wall frames are employed the size of the door is determined by the opening in the frame.

**Note.**—Openings in walls frequently vary from the sizes given in the plans. It is important, therefore, that the openings be measured before the doors are built. The size and shape of the opening in wall frames is frequently altered by distortion incidental to shipment and erection.





#### AUTOMATIC DOORS:

Doors at openings to enclosures to vertical communications through buildings to be of the normally closed or automatic types. Doors not to be provided with attachments that will prevent the operation of the closing devices.

#### CARE AND MAINTENANCE:

- (A) Doors should be ready for instant use at all times. Therefore, it is necessary to keep surroundings clear of everything that would be likely to obstruct or interfere with their free operation. They should be kept closed and fastened as much of the time as possible.
- (B) Where subject to deterioration from corrosion, doors should be painted at fairly frequent intervals.
- (C) Hardware should be examined at frequent intervals, and any parts rendered inoperative should be promptly replaced.
- (D) Hinges are especially subject to wear and for this reason should be inspected frequently and kept in repair.
- (E) Guides and bearings to be kept well greased to facilitate operation.
- (F) Doors of the sliding pattern should be stenciled on the room side with the words "To Open," and an arrow indicating the direction. Swinging doors should be stenciled, "Turn Knob and Push," or "Press Down Lever and Push," as the case may be.

#### CLASS C.

**Calls for the protection of openings in corridor and room partitions.** "Partitions used for the subdivision of fire sections of buildings are of very considerable value in safeguarding life and preventing the rapid spread of fire through the buildings. While of lesser importance from the fire protection viewpoint than fire walls and enclosures to vertical communications through buildings, all openings in interior partitions should be provided with effective barriers to the passage of fire." (OBVIOUSLY EVANS "ALMETL" FIRE DOORS HAVING CLASS A APPROVAL WILL MEET ABOVE CONDITIONS.)

#### THRESHOLDS:

To be made of non-combustible material with upper surface treated to prevent slipping.

#### LINTELS:

To be of non-combustible material capable of safely sustaining the superimposed loads, or partitions to be so constructed that the frame will not be subjected to material stress.

#### WALL FRAMES:

- (A) To consist of structural or sheet metal channels of sufficient width to lap the sides of the partitions.
- (B) To be securely anchored to partition, and where they extend from floor to ceiling, to be securely anchored at top and bottom.

#### FINISH AT OPENINGS:

The casing and trim at openings to be preferably of non-combustible material.

#### CLASS D.

**Calls for the protection of openings in exterior walls subject to severe fire exposure.** The importance of exterior walls as a safeguard to life at time of fire, and in preventing fire from entering and spreading through buildings makes it essential that all openings in such walls subject to severe exposing fires be protected by efficient methods. "Only such fire retardants are included in this class as have been shown by experience and tests to furnish a high degree of fire protection." \* \* \* "Fire retardants fulfilling Class A or Class B requirements can be employed for the protection of openings in exterior walls subject to severe fire exposure where the type and pattern are suitable." (EVANS "ALMETL" FIRE DOORS ARE IN CLASS A AND EVANS "ALMETL" FIRE SHUTTERS ARE IN CLASS D.)

#### MASONRY AT WALL OPENINGS:

Walls to be plumb and true and present smooth masonry surfaces without combustible trim at openings.

#### SILLS:

- (A) To be of non-combustible material suitable for the service intended, and provided with any grooves, holes or recesses necessary for the proper installation of the fire retardants used to protect the openings.
- (B) To be firmly embedded in mortar, and securely bonded or anchored to the masonry.

#### LINTELS:

To be of non-combustible material and designed for the proper installation of fire retardants used to protect the openings.

**Note.**—The Lintels specified for openings in fire walls may be used for openings in exterior walls, particularly for door openings.

#### WALL FRAMES:

For exterior door openings to conform in all essential particulars with the requirements for openings in fire walls or vertical communications through buildings.

#### MEASUREMENTS:

Same as Class B.

#### CARE AND MAINTENANCE:

Same as for Class A.

#### PAINTING:

Consult inspection department having jurisdiction.

#### CLASS E.

**Calls for the protection of openings in exterior walls subject to moderate fire exposure.** Openings in exterior walls, not subject to severe exposure, may be efficiently protected by devices which will not safely withstand the high temperatures of severe fire exposures on the exterior of buildings or the temperatures of fires on the interior of buildings. \* \* \* Fire retardants fulfilling Class A, B or D requirements can be employed for the protection of openings in exterior walls not subject to severe fire exposure, where the type and pattern are suitable.

#### MASONRY AT WALL OPENINGS:

Same as for Class D.

#### SILLS AND LINTELS:

May be the same as for openings in fire walls where suitable.

#### WALL FRAMES:

Specified for openings in Class A and B situations may be used for door openings in exterior walls.

#### MULLIONS:

- (A) Bearing mullions to be of masonry or of structural members protected by at least 2 inches of fireproofing material on all sides.
- (B) Non-Bearing mullions and horizontal structural dividing members to consist of steel I-beams not smaller than 5 inches, securely fastened to the wall and protected by at least 2 inches of fireproofing material on the flanges and at least 2½ inches next on the web.

#### CARE AND MAINTENANCE:

Fire retardants at exterior openings to be kept well painted to prevent deterioration, to be kept clear of everything that would be likely to obstruct or interfere with their free operation, and to be frequently tested and maintained in perfect working order.

The 1916 report of the Committee on Protection of Openings in Walls and Partitions (adopted by the National Fire Protection Association) advises:

- 1st. Fire Doors must be so counterbalanced that they can be easily operated and remain in any position in which they are placed or left by the operator.
- 2nd. The Automatic closing device must operate automatically by heat and close fire doors left in any position in time to prevent the passage of fire through the door openings even though it starts in close proximity to the doors.

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# READY REFERENCE TABLE SHOWING EXACT AREA IN SQUARE FEET OF INCLINE TOP SLIDING FIRE DOORS TO COVER SQUARE TOP OPENINGS

Use this table for openings where width and height are even feet or half feet. (See foot note.)

O—Denotes area of openings and D—area of doors—IN SQUARE FEET.

This table is based on doors overlapping openings four inches on each side and four inches at top, with assumption that Lintels are fireproofed and that there is sufficient clearance at top and on both sides of openings to allow for installation of Standard Type Hardware. The National Fire Protection Association at its twenty-first annual meeting, adopted a resolution that no LABELED fire doors could be used for covering openings exceeding 120 sq. ft. area.

HEIGHT OF OPENINGS

Width	6'	6½'	7'	7½'	8'	8½'	9'	9½'	10'	10½'	11'	11½'	12'
3'-0"	O-18. D-23.64	O-19.50 D-25.47	O-21. D-27.31	O-22.50 D-29.	O-24. D-30.98	O-25.50 D-32.81	O-27. D-34.64	O-28.50 D-36.51	O-30. D-38.31	O-31.50 D-40.14	O-33. D-41.98	O-34.50 D-43.81	O-36. D-45.64
3'-6"	O-21. D-26.94	O-22.75 D-29.02	O-24.50 D-31.10	O-26.25 D-33.19	O-28. D-35.27	O-29.75 D-37.35	O-31.50 D-39.44	O-33.25 D-41.52	O-35. D-43.60	O-36.75 D-45.68	O-38.50 D-47.77	O-40.25 D-49.85	O-42. D-51.94
4'-0"	O-24. D-30.24	O-26. D-32.57	O-28. D-34.90	O-30. D-37.24	O-32. D-39.57	O-34. D-41.91	O-36. D-44.24	O-38. D-46.57	O-40. D-48.91	O-42. D-51.24	O-44. D-53.57	O-46. D-55.91	O-48. D-58.24
4'-6"	O-27. D-33.55	O-29.25 D-36.10	O-31.50 D-38.73	O-33.75 D-41.31	O-36. D-43.89	O-38.25 D-46.48	O-40.50 D-49.06	O-42.75 D-51.74	O-45. D-54.23	O-47.25 D-56.81	O-49.50 D-59.39	O-51.75 D-61.98	O-54. D-64.56
5'-0"	O-30. D-36.81	O-32.50 D-39.67	O-35. D-42.56	O-37.50 D-45.39	O-40. D-48.23	O-42.50 D-51.06	O-45. D-53.89	O-47.50 D-56.73	O-50. D-59.58	O-52.50 D-62.39	O-55. D-65.23	O-57.50 D-68.	O-60. D-70.89
5'-6"	O-33. D-40.24	O-35.75 D-43.32	O-38.50 D-46.41	O-41.25 D-49.49	O-44. D-52.57	O-46.75 D-55.66	O-49.50 D-58.74	O-52.25 D-61.82	O-55. D-64.91	O-57.75 D-67.99	O-60.50 D-71.07	O-63.25 D-74.16	O-66. D-77.24
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7'-0"	O-42. D-50.40	O-45.50 D-54.23	O-49. D-58.06	O-52.50 D-61.90	O-56. D-65.73	O-59.50 D-69.56	O-63. D-73.40	O-66.50 D-77.23	O-70. D-81.06	O-73.50 D-84.90	O-77. D-88.83	O-80.50 D-92.56	O-84. D-96.40
7'-6"	O-45. D-53.80	O-48.75 D-57.79	O-52.50 D-61.97	O-56.25 D-66.05	O-60. D-70.14	O-63.75 D-74.22	O-67.50 D-78.31	O-71.25 D-82.39	O-75. D-86.47	O-78.75 D-90.56	O-82.50 D-94.64	O-86.25 D-98.72	O-90. D-102.79
8'-0"	O-48. D-57.24	O-52. D-61.57	O-56. D-65.90	O-60. D-70.24	O-64. D-74.57	O-68. D-78.90	O-72. D-83.24	O-76. D-87.57	O-80. D-91.90	O-84. D-96.24	O-88. D-100.57	O-92. D-104.91	O-96. D-109.24
8'-6"	O-51. D-60.78	O-55.25 D-65.26	O-59.50 D-69.84	O-63.75 D-74.33	O-68. D-79.01	O-72.25 D-83.59	O-76.50 D-88.18	O-80.75 D-92.76	O-85. D-97.34	O-89.25 D-101.85	O-93.50 D-106.51	O-97.75 D-111.09	O-102. D-115.68
9'-0"	O-54. D-64.14	O-58.50 D-68.97	O-63. D-73.81	O-67.50 D-78.84	O-72. D-83.47	O-76.50 D-88.30	O-81. D-93.14	O-85.50 D-97.98	O-90. D-102.81	O-94.50 D-106.64	O-99. D-112.48	O-103.50 D-117.31	O-108. D-122.14
9'-6"	O-57. D-67.62	O-61.75 D-72.70	O-66.50 D-77.78	O-71.25 D-82.87	O-76. D-87.95	O-80.75 D-93.04	O-85.50 D-98.12	O-90.25 D-103.21	O-95. D-108.28	O-99.75 D-113.37	O-104.50 D-118.46	O-109.25 D-123.54	O-114. D-128.62
10'-0"	O-60. D-71.11	O-65. D-76.44	O-70. D-81.77	O-75. D-87.11	O-80. D-92.44	O-85. D-97.77	O-90. D-103.11	O-95. D-108.44	O-100. D-113.77	O-105. D-119.11	O-110. D-124.44	O-115. D-129.77	O-120. D-135.11
10'-6"	O-63. D-74.62	O-68.25 D-80.20	O-73.50 D-85.78	O-78.75 D-91.37	O-84. D-96.95	O-89.25 D-102.54	O-94.50 D-108.13	O-99.75 D-113.69	O-105. D-119.29	O-110.25 D-124.87	O-115.50 D-130.45	O-120.75 D-136.04	O-126. D-141.62
11'-0"	O-66. D-78.13	O-71.50 D-83.97	O-77. D-89.80	O-82.50 D-95.63	O-88. D-101.47	O-93.50 D-107.30	O-99. D-113.13	O-104.50 D-118.97	O-110. D-124.80	O-115.50 D-130.04	O-121. D-136.47	O-126.50 D-142.30	O-132. D-148.13
11'-6"	O-69. D-81.68	O-74.75 D-87.76	O-80.50 D-93.84	O-86.25 D-99.93	O-92. D-106.01	O-97.75 D-112.09	O-103.50 D-118.18	O-109.25 D-124.26	O-115. D-130.35	O-120.75 D-135.43	O-126.50 D-142.41	O-132.25 D-148.60	O-138. D-154.68
12'-0"	O-72. D-85.22	O-78. D-91.56	O-84. D-97.89	O-90. D-104.22	O-96. D-110.56	O-102. D-116.89	O-108. D-123.22	O-114. D-129.56	O-120. D-135.89	O-126. D-142.23	O-132. D-151.09	O-138. D-154.89	O-144. D-161.23

NOTE.—The above table is a ready reference table to ascertain areas of Doors for openings 3 ft. to 12 ft. wide by 6 ft. to 12 ft. high, stepped up every six inches. Table on following page furnishes areas for practically all sizes of openings, stepped up inch by inch.



TABLE FOR ESTIMATING NET AREA IN SQUARE FEET OF INCLINED TOP SLIDING FIRE DOORS FOR SQUARE TOP OPENINGS. (See Foot Note)

**EXPLANATION**—Under general heading of **DOOR WIDTH** is a range of sizes from two feet to thirteen feet inclusive, stepped up by inches. The first column denotes feet as well as inches. The second column is the decimal equivalent to the feet (or feet and inches) shown in the first column. The third column gives the net amount of inches expressed in the first column.

**EXAMPLE**—If it is desired to know the exact area in square feet of an inclined top sliding fire door to cover a square top OPENING, say 6'0" wide by 8'0" high, we add 8" to the width of the opening (viz. 4" overlap on each side) and add 4" to the height for an overlap. This gives a measurement of 6'8" wide by 8'4" high.

By referring to the table, we find that 6.667 is the decimal equivalent for 6'8", and that 8.333 is the decimal equivalent for 8'4". On referring back to the width 6'8", and under the heading of  $\frac{1}{2}$  RISE, we note that .208 is equivalent to a rise of 5" in a 6'8" width, and adding this .208 to the decimal equivalent of the height, namely 8.333, the result is 8.541. Then multiply 8.541 by 6.667 and the result is 56.94, which will be the exact area in square feet of an inclined top sliding fire door to cover a square top opening 6' wide by 8' high. Practically any size square top opening can be worked out by this rule.

[illegible]

NOTE.—This table can be used for dimensions not shown on page 36, and while this table also includes the sizes shown on the preceding page, yet where opening dimensions terminate in even feet or half feet, you can instantly get the total square feet involved by referring to page 36 instead of using the method of calculation indicated on this page.



# Necessary data to be furnished us when you ask for quotations or send orders for Evans "Almetl" Fire Doors

A. The precise style of door, whether sliding or swinging, etc., must be clearly mentioned; also whether top of door is to be square, inclined or arched.

B. It must be distinctly stated whether doors are single or double and whether wanted for both sides of an opening or one side only. If both sides, mention whether the fixtures can be bolted together.

C. The direction of motion of doors, whether right or left, must be distinctly given, **as doors are not reversible.**

D. A precise statement as to the sort of hardware desired, whether wrought or malleable, is necessary.

E. Each inquiry or order must state:

1. Number of openings, and number of doors required for same.
2. Whether openings are square or arched top.
3. Height of center of opening.
4. Height of side of opening.
5. Width of opening.
6. Thickness of walls.
7. Distance from highest point of opening to nearest obstruction overhead. **Note.** Square top openings should have 14" headroom at edge of opening, and  $\frac{3}{4}$  of an inch more for each foot of track beyond that point. Arched top openings should have 14" headroom above top of the arch, and  $\frac{3}{4}$  of an inch more for each foot the track extends beyond the center. Always state nature and location of any obstructions above top of opening, or on side walls.
8. Distance from edge of openings to wall at right angles, if any, to provide sufficient space for wall binders.

F. Mention kind of sill, and if raised, the height of same from the floor.

G. For swinging doors, state if they are to overlap the openings. If not, and they are to fit flush with the wall, always mention whether the opening (or frame, if used) is of the rabbetted type, and give depth and width of rabbet.

H. If channel irons or steel door frames are used, state width of same on wall side.

I. If doors are to be enclosed in pockets, 4" clearance room must be provided for sliding of doors and hardware.

J. State whether walls are concrete, brick, or stone, etc.

K. If **unapproved** steel lintels are employed, state height of same, as doors must overlap masonry work 4" above upper edge of lintel.

L. If hinge pins or eye blocks are already set for swinging doors, give diameter of same; also distance from center of pin to face of wall, and distance from center of pin to edge of opening.

M. For openings having scant headroom, either straight or drop bracket type hardware must be used, at special prices.

N. For vertical sliding doors, furnish necessary data from above information and give particular consideration to headroom above opening, and wall room on each side of opening.

O. A precise statement as to what insurance jurisdiction is concerned (whether Stock or Mutual and name) must be marked on each order.



Fac-simile of Factory Label used on all Evans "Almetl" Fire Doors—your protection on dependable manufacture





# Erection of Evans "Almetl" Single Sliding Fire Doors

With M. & E.—R. W. Flat Track Hardware

**Size of Doors.** Doors to overlap sides and top of wall opening 4". Where steel lintels are used, doors to overlap masonry 4" above upper edge of steel, unless such lintels are fireproofed in a manner satisfactory to the Inspection Department having jurisdiction. Tops of doors are made with an incline of three-fourths of one inch to the foot.

**Track.** To be twenty-one inches longer than twice the width of the opening. Place door in closed position over opening (i. e., with 4" overlap on each side) with  $\frac{3}{8}$ " blocking between bottom of door and sill and with  $\frac{3}{4}$ " strip on top edge of door. Lay track on this strip with center of first bolt hole  $6\frac{1}{4}$ " from edge of opening and mark all bolt holes.

Remove track, drill bolt holes through wall, then bolt track in position with  $\frac{3}{4}$ " bolts, using bracket between wall and track at each bolt. When doors are used on both sides of opening, place tracks directly opposite and bolt together. End of track with bolt holes closest together should be placed over opening.

**Bumpers.** Attach front bumper with first bolt hole in front end of track and back bumper with last bolt hole in back end of track. 4" cast iron washers are provided for all wall bolts.

**Hangers.** With door in closed position over opening, place hangers on track directly in front of angle iron track binder (riveted to top edge of door) and to one side of the wall bolt nearest to edge of opening and mark bolt holes on door so same will be located in valley of vertical corrugation on face of door—thus allowing the pendant of hanger to span to the crest of the two adjacent vertical corrugations. Drill or punch holes and attach hangers to door, using reinforcing plate (provided) on wall side of door with  $\frac{1}{2}$ " bolts, use jamb nut in valley of vertical corrugation directly under pendant of hanger. Doors for openings in excess of 6 feet in width require three hangers.

**Binders.** With door against front bumper, place binders against front edge of door, mark and drill the holes exactly as done for the track bolts. The top binder is placed 24" from the top of door, and the lower binder is placed 18" above the sill. Attach with  $\frac{3}{4}$ " machine bolts.

**Guide Roller.** Chip out wall and sill so that frame of guide roll will set flush with face of wall and sill; drill bolt holes and bolt to wall with  $\frac{3}{4}$ " machine bolt passing through eye bolt set in from side of opening. When door is closed, adjust roller against wedge at end of roller strip so that door will be held to, but not tightly against the wall.

**Rear Binder Hook.** Drill a  $\frac{13}{16}$ " hole through the wall (center of hole to be 4" from rear edge of wall opening). Chip enough material from wall to leave the back of the rear binder hook flush with the face of the wall, as per illustration on page 9; then pass  $\frac{3}{4}$ " machine bolt through the wall with hook in such position that it will engage the center of the pocket (which is attached to the back edge of the door) when the door is in closed position.

**Doors for Openings up to 10 Feet in Height** are provided with one rear binder hook and for openings exceeding 10 feet in height are provided with two rear binder hooks—in addition to the front binders and stay roller. When openings are 11 feet or more in height three front binders are required, locating the top and bottom binders about 18" from the corners of the door and the third binder half way between the top and bottom binders. The rear binder hooks are equally distributed between the top and bottom of door and attached by  $\frac{3}{4}$ " machine bolts extending clear through the wall.

Attach link bracket, wedge, roller strip, handles, cord, weights, trigger, pulleys, etc., as illustrated on page 9 after door is hung.

**Caution.** Do not attach track to wood, even when wood is tin-covered, nor use wood or lead plugs in the wall to support wall bolts. If holes are drilled too large, place the bolt and wedge in with iron to hold tight. Fill the hole flush with two to one sand and cement mortar.

\*Our "Almetl" Doors are provided with an angle iron track binder, which engages the track and holds door in position in case the hanger wheels are lifted from the track by expansion.





# Erection of Evans "Almetl" Single Sliding Fire Doors

With M. & E.—A. P. Round Track Hardware

**Size of Doors.** Doors to overlap sides and top of wall opening 4 inches. Where steel lintels are used, doors to overlap masonry 4 inches above upper edge of steel unless such lintels are fireproofed in a manner satisfactory to the Inspection Department having jurisdiction. Tops of doors are made with an incline of three-fourths of one inch to the foot.

**Track.\*** To be twelve inches longer than twice the width of the opening. Center track supports should be located at the sides of the hangers instead of directly in back of the hangers when doors are in closed position (see illustration on page 9) to allow for expansion of door without binding. The space between the top of the door and the track to be at least 1" to allow for the upward expansion of the door when heated.

**Note.** Our "Almetl" Door hangers are provided with a lug or hook, which engages the track and holds the door in position in case the hanger wheels are lifted from the track by expansion.

**Attaching Hangers.** Hangers to be bolted securely to door with  $\frac{1}{2}$ " bolts—using jamb nut in valley of vertical corrugation and directly under pendant of hanger, before being placed in position against opening, using triangular reinforcing plates (provided) on wall side of door and center of bottom bolt hole of hanger should be about 10 inches from edge of door; the under side of lug on back of hanger should rest on top edge of door. Doors for openings in excess of 6 feet in width require three hangers.

**Mounting Track.** After hangers have been attached to door, place door in proper position over opening (i. e., with 4" overlap on each side) with  $\frac{3}{8}$ " blocking between sill and bottom of door. Place center supports or brackets in track. Put track in exact position in hangers over door. Block track up against top wheels of hangers and mark position of center support bolt holes. Drill for  $\frac{3}{4}$ " bolts. When tracks for doors on each side of the wall are bolted together with a single set of bolts through the wall, care should be taken to mark the holes so that they will be exactly opposite and the drilling should be done from both sides.  $\frac{3}{4}$ " machine bolts are used for track, front binders, rear binder and stay roller. All wall bolts extend entirely through the wall. Expansion bolts are not approved. 4" cast iron washers are provided for all wall bolts.

**Attaching Binders.** Before removing the door, place the front binders in contact with front edge of door, mark and drill the holes exactly as done in the center track supports. The top binder is placed 24" from the top of the door, and the lower binder about 18" above the sill.

**Rear Binder Hook.** Drill a  $\frac{13}{16}$ " hole through the wall (center of hole to be 4" from rear edge of wall opening). Chip enough material from the wall to leave the back of the rear binder hook flush with face of wall, as per illustration on page 9, then pass bolt through wall with hook in such position that it will engage the center of the pocket (which is attached to the back edge of the door) when the door is in closed position.

Doors for openings up to 10 feet in height are provided with one rear binder hook and for openings exceeding 10 feet in height, are provided with two rear binder hooks—in addition to the front binders and stay roll. When openings are 11 feet or more in height three front binders are required, locating the top and bottom binders about 18 inches from the corners of the door and the third binder half way between the top and bottom binder. The rear binder hooks are equally distributed between top and bottom of door and attached by  $\frac{3}{4}$ " bolts extending clear through the wall.

**Stay Roller.** Chip out brickwork carefully for guide or stay roller so that it will be flush with wall and the sill. Use only  $\frac{3}{4}$ " bolts—passing same through eye bolt which is set in from side of opening. When door is closed, adjust roller against wedge at the end of the roller strip so that the door is held to, but not tightly against the wall.

After having set the stay roller and rear binder hook in the wall, place the door again in position with the  $\frac{3}{8}$ " strip underneath, place track in the hangers and securely bolt to wall. Thin washers or plates ( $\frac{1}{16}$ " to  $\frac{1}{8}$ " in thickness) between wall and brackets will often make up for slight unevenness in the wall so that the track will be perfectly straight; then remove strip under door, thus allowing the weight of the door to come on the hangers.

Attach link bracket, wedge, roller strip, handles, cord, weights, trigger, cable, etc., as illustrated on page 9, after door is hung.

**Caution.** Do not attach track to wood, even when wood is tin-covered, nor use wood or lead plugs in the wall to support wall bolts. If holes are drilled too large, place the bolt and wedge in with iron to hold tight. Fill the hole flush with 2 to 1 sand cement mortar.

**Wall.** Should the wall be very rough and uneven so that the thin plates or washers are not sufficient, the surface will have to be chipped.

\*Tracks are usually shipped from stock lengths which necessitates cutting the end from same to obtain the exact length required.



Wall Bolts Required for Erecting Evans "Almetl" Fire Doors of Single Sliding Type when M. & E.—R. W. Flat Track Hardware is used

FLAT TRACK HARDWARE						ROUND TRACK HARDWARE							
Total Number of Bolts	TRACK BOLTS		Binder Bolts	Guide Roller Bolts	Rear Binder Bolts	Size of Opening	Total Number of Bolts	TRACK BOLTS			Binder Bolts	Guide Roller Bolts	Rear Binder Bolts
	Inter-mediate	End						Front	Inter-mediate	Rear			
11	3	2	4	1	1	3'	12	1	4	1	4	1	1
11	3	2	4	1	1	3' 3"	13	1	5	1	4	1	1
11	3	2	4	1	1	3' 6"	13	1	5	1	4	1	1
11	3	2	4	1	1	3' 9"	13	1	5	1	5	1	1
11	3	2	4	1	1	4'	13	1	5	1	4	1	1
11	3	2	4	1	1	4' 3"	13	1	5	1	4	1	1
11	3	2	4	1	1	4' 6"	13	1	5	1	4	1	1
12	4	2	4	1	1	4' 9"	13	1	5	1	4	1	1
12	4	2	4	1	1	5'	14	1	6	1	4	1	1
13	5	2	4	1	1	5' 3"	14	1	6	1	4	1	1
13	5	2	4	1	1	5' 6"	14	1	6	1	4	1	1
13	5	2	4	1	1	5' 9"	14	1	6	1	4	1	1
13	5	2	4	1	1	6'	14	1	6	1	4	1	1
13	5	2	4	1	1	6' 3"	16	1	8	1	4	1	1
13	5	2	4	1	1	6' 6"	16	1	8	1	4	1	1
13	5	2	4	1	1	6' 9"	16	1	8	1	4	1	1
13	5	2	4	1	1	7'	16	1	8	1	4	1	1
13	5	2	4	1	1	7' 3"	17	1	9	1	4	1	1
13	5	2	4	1	1	7' 6"	17	1	9	1	4	1	1
15	7	2	4	1	1	7' 9"	17	1	9	1	4	1	1
15	7	2	4	1	1	8'	17	1	9	1	4	1	1
15	7	2	4	1	1	8' 3"	17	1	9	1	4	1	1
15	7	2	4	1	1	8' 6"	17	1	9	1	4	1	1
16	8	2	4	1	1	8' 9"	17	1	9	1	4	1	1
16	8	2	4	1	1	9'	17	1	9	1	4	1	1

Up to 11-Foot Opening Same as 9-Foot Opening

Openings 9 Feet 3 Inches to 11 Feet  
Require 10 Bolts for Intermediate  
Track Brackets.

**For Fixtures on One Side of Wall.** Estimate two end track bolts 4 inches longer than thickness of wall and intermediate track bolts 4 inches longer than thickness of wall; binder bolts thickness of wall plus 2 inches and guide roller bolt, thickness of wall plus 1 inch.

**For Fixtures on Both Sides of Wall.**—Estimate as follows: For track, two end bolts 6 inches longer than thickness of wall and intermediate bolts 5 inches longer than thickness of wall. For binders, all bolts 2 inches longer than thickness of wall. For guide roller bolts same length as thickness of wall, less 1 inch.

**For Hardware Used on One Side of Wall.**—Front track bolt should be 6 inches longer than thickness of wall; No. 601 only, 5 inches. Rear track bolt 7 inches longer than thickness of wall; No. 601 only, 6 inches. Intermediate track bolts and binder bolts 2 inches longer than thickness of wall. Guide roller bolt 1 inch longer than thickness of wall.

**When Hardware is Used on Both Sides of Wall.**—The front track bolt should be 9 inches longer than thickness of wall; No. 601 only, 8 inches. Rear track bolt 12 inches longer than thickness of wall; No. 601 only, 11 inches. Intermediate track bolts and binder bolts 2 inches longer than thickness of wall. Guide roller bolt same length, thickness of wall less 1 inch.

Wall Bolts Required for Erecting Evans "Almet" Fire Doors of Single Sliding Type when M. & E.—A-P Round Track Hardware is used

	Front Bumper	Rear Bumper	Track Bracket	Front Binders	Rear Binder	Guide Roller	Total Required
Doors one Style of Wall	"W" Plus 4"	"W" Plus 3"	"W" Plus 2"	"W" Plus 4"	"W" Plus 1"	"W" Plus 1"	
Doors both Sides of Wall	"W" Plus 6"	"W" Plus 3"	"W" Plus 2"	"W" Plus 6"	"W" Minus 1"	"W" Minus 1"	
Width of Opening	Bolts Required	Bolts Required	Bolts Required	Bolts Required	Bolts Required	Bolts Required	
3' 0"	1	1	3	2	1	1	9
3' 3"	1	1	3	2	1	1	9
3' 6"	1	1	3	2	1	1	9
3' 9"	1	1	4	2	1	1	10
4' 0"	1	1	5	2	1	1	11
4' 3"	1	1	5	2	1	1	11
4' 6"	1	1	5	2	1	1	11
4' 9"	1	1	5	2	1	1	11
5' 0"	1	1	5	2	1	1	11
5' 3"	1	1	5	2	1	1	11
5' 6"	1	1	5	2	1	1	11
5' 9"	1	1	5	2	1	1	11
6' 0"	1	1	7	2	1	1	13
6' 3"	1	1	7	2	1	1	13
6' 6"	1	1	8	2	1	1	14
6' 9"	1	1	8	2	1	1	14
7' 0"	1	1	8	2	1	1	14
7' 3"	1	1	8	2	1	1	14
7' 6"	1	1	8	2	1	1	14
7' 9"	1	1	8	2	1	1	14
8' 0"	1	1	8	2	1	1	14
8' 3"	1	1	10	2	1	1	16
8' 6"	1	1	10	2	1	1	16
8' 9"	1	1	10	2	1	1	16
9' 0"	1	1	10	2	1	1	16
9' 3"	1	1	10	2	1	1	16
9' 6"	1	1	10	2	1	1	16
9' 9"	1	1	10	2	1	1	16
10' 0"	1	1	10	2	1	1	16
10' 3" to 12' 0"	1	1	11	2	1	1	17

## NOTES

"W" is equal to the thickness of wall in inches.

Style No. 900 requires one more track bracket than listed above.

Style No. 600 requires one more bolt for cord pulley length of which is

When necessary to fasten Front Binders with two bolts, length of second one is: "W", plus 3 inches for doors on one side of wall, "W", plus 2 inches for doors on both sides of wall.

When openings exceed 10 feet in height two rear Binder bolts are required.

When openings are 11 feet or more in height three front binders are required.



# Special Cord Arrangements

## FLAT OR ROUND TRACK

Illustrations of cord arrangements where local board of underwriters having jurisdiction, require fusible link to come in the center of opening.

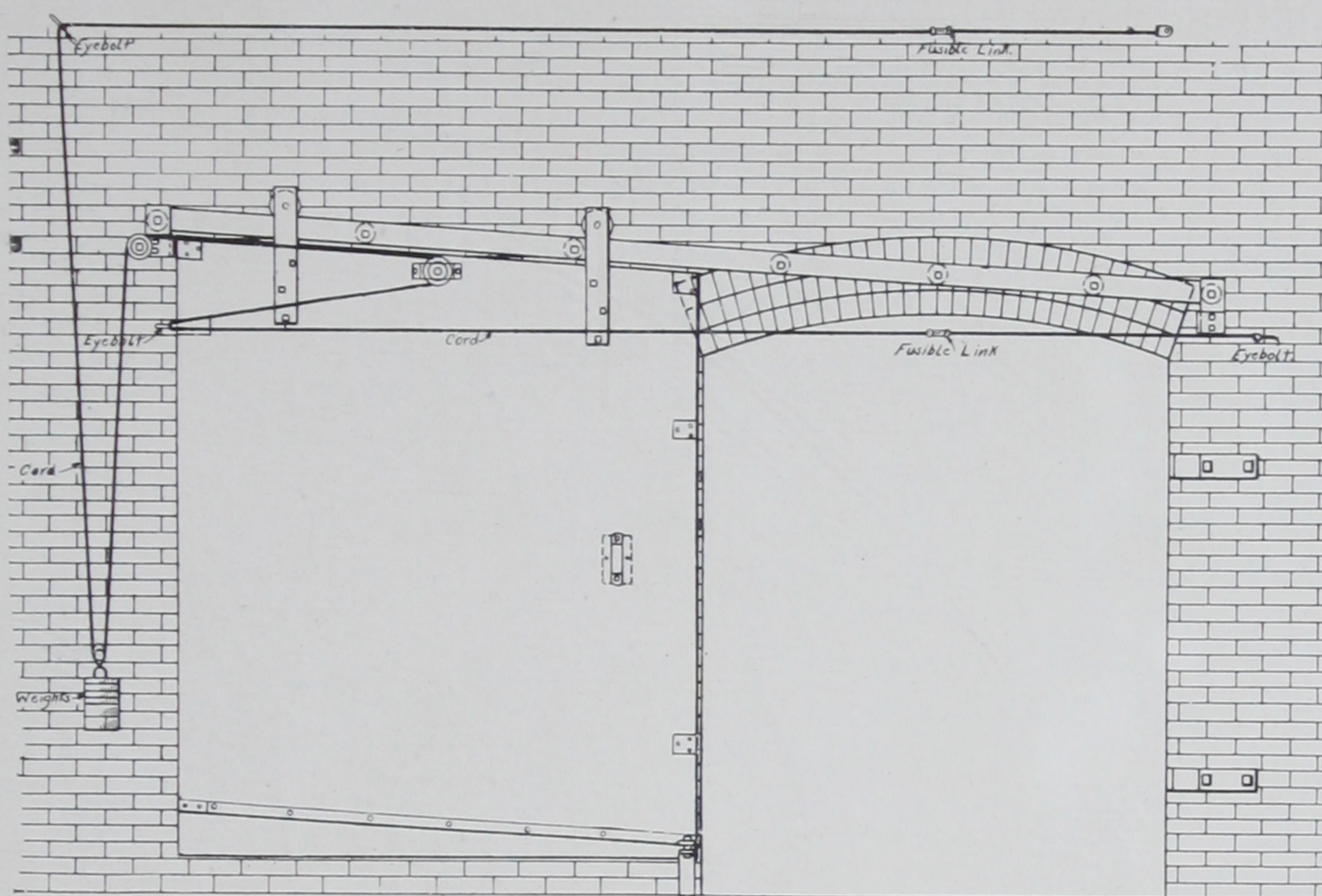


FIG. A—TWO LINK TYPE

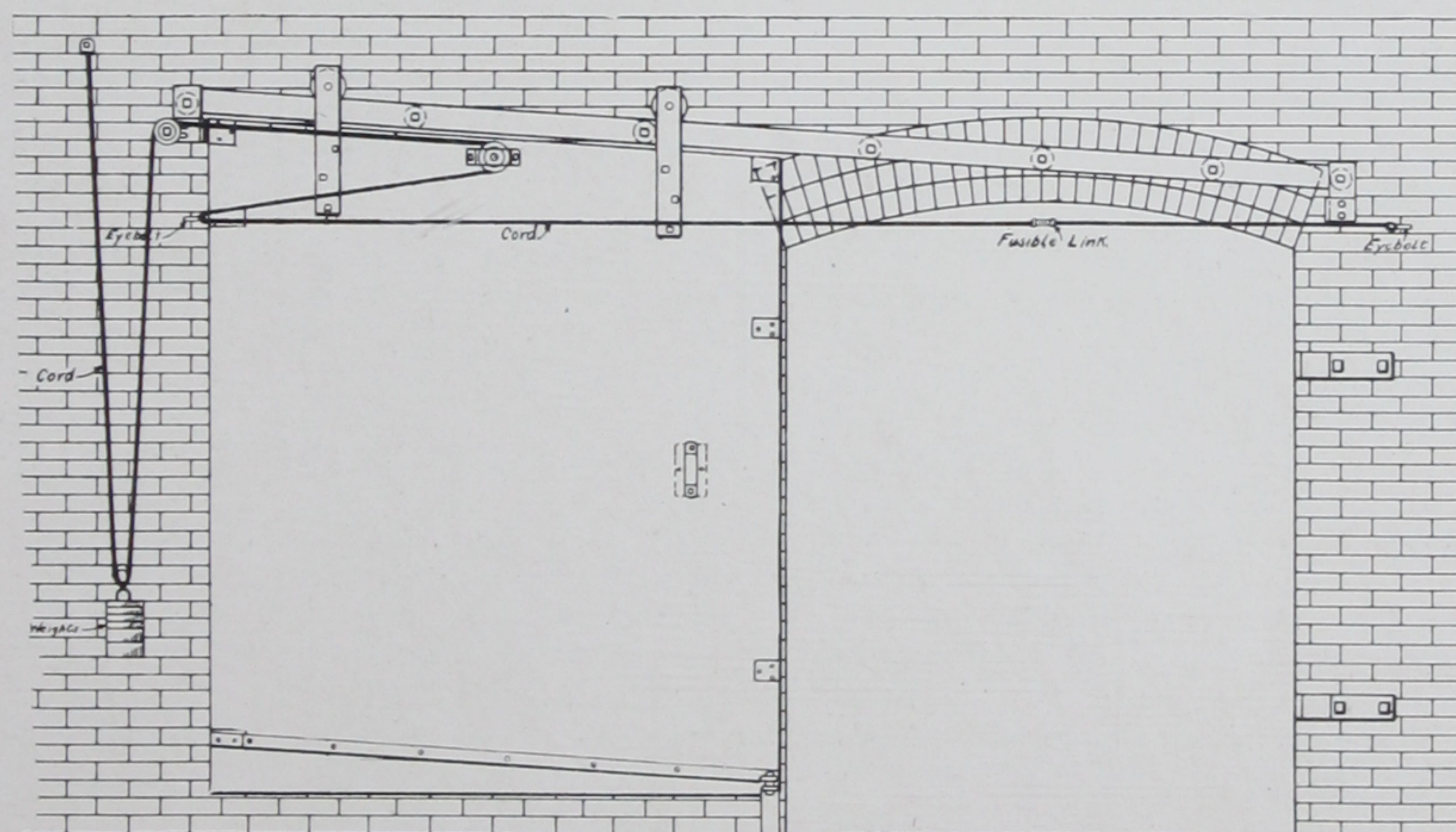


FIG. B—ONE LINK TYPE

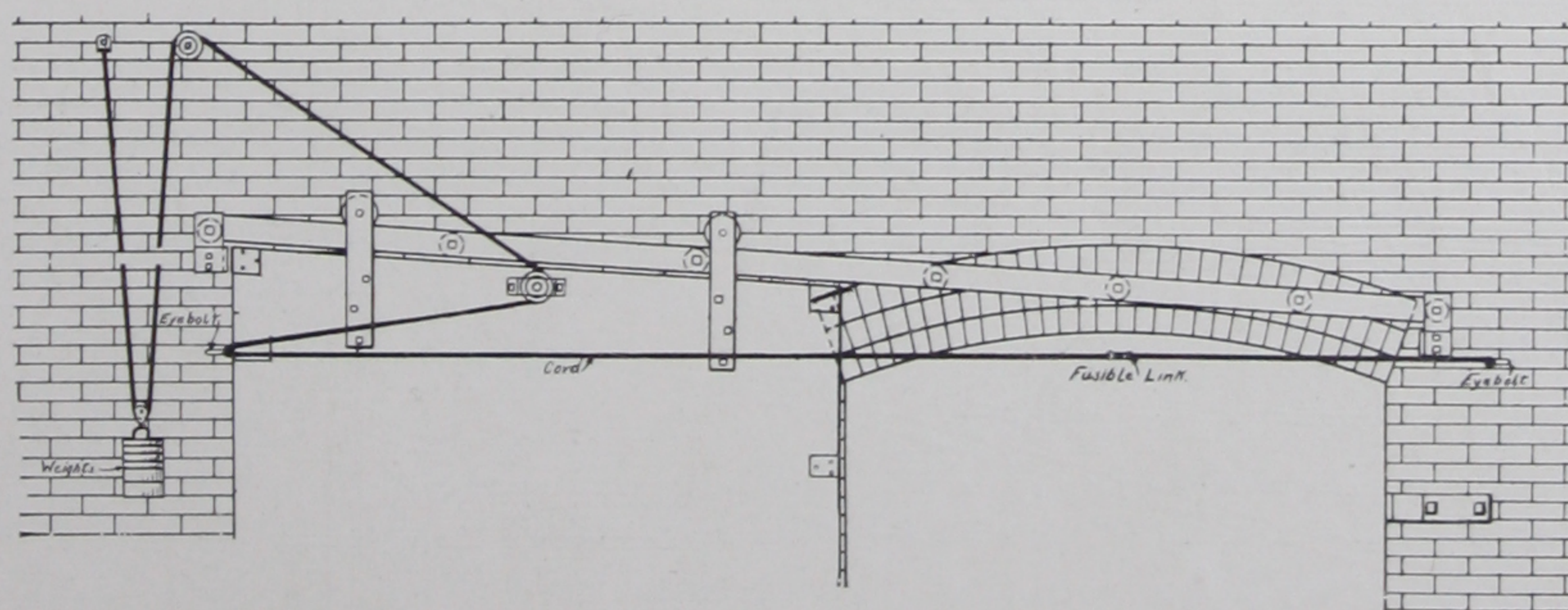
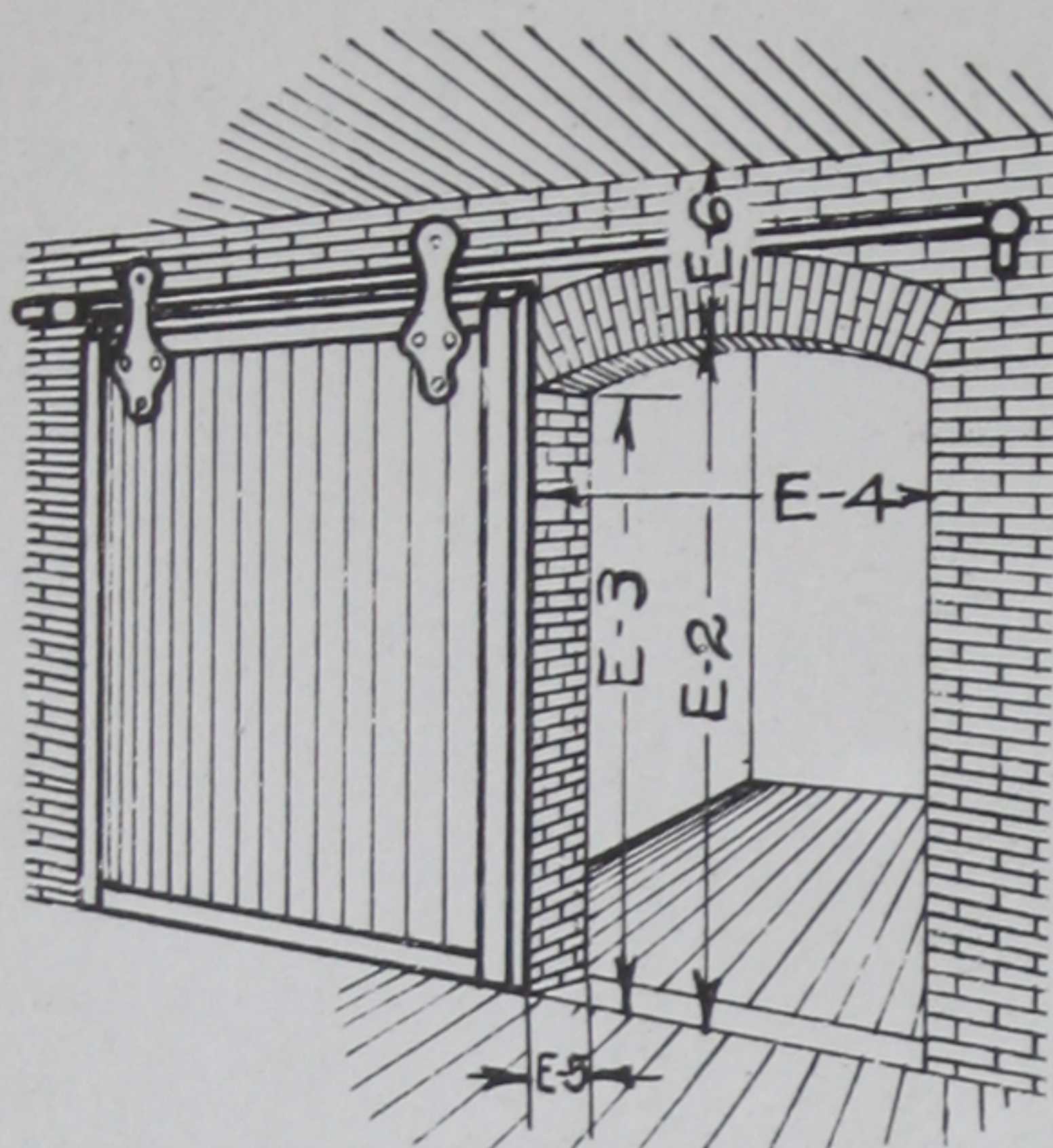
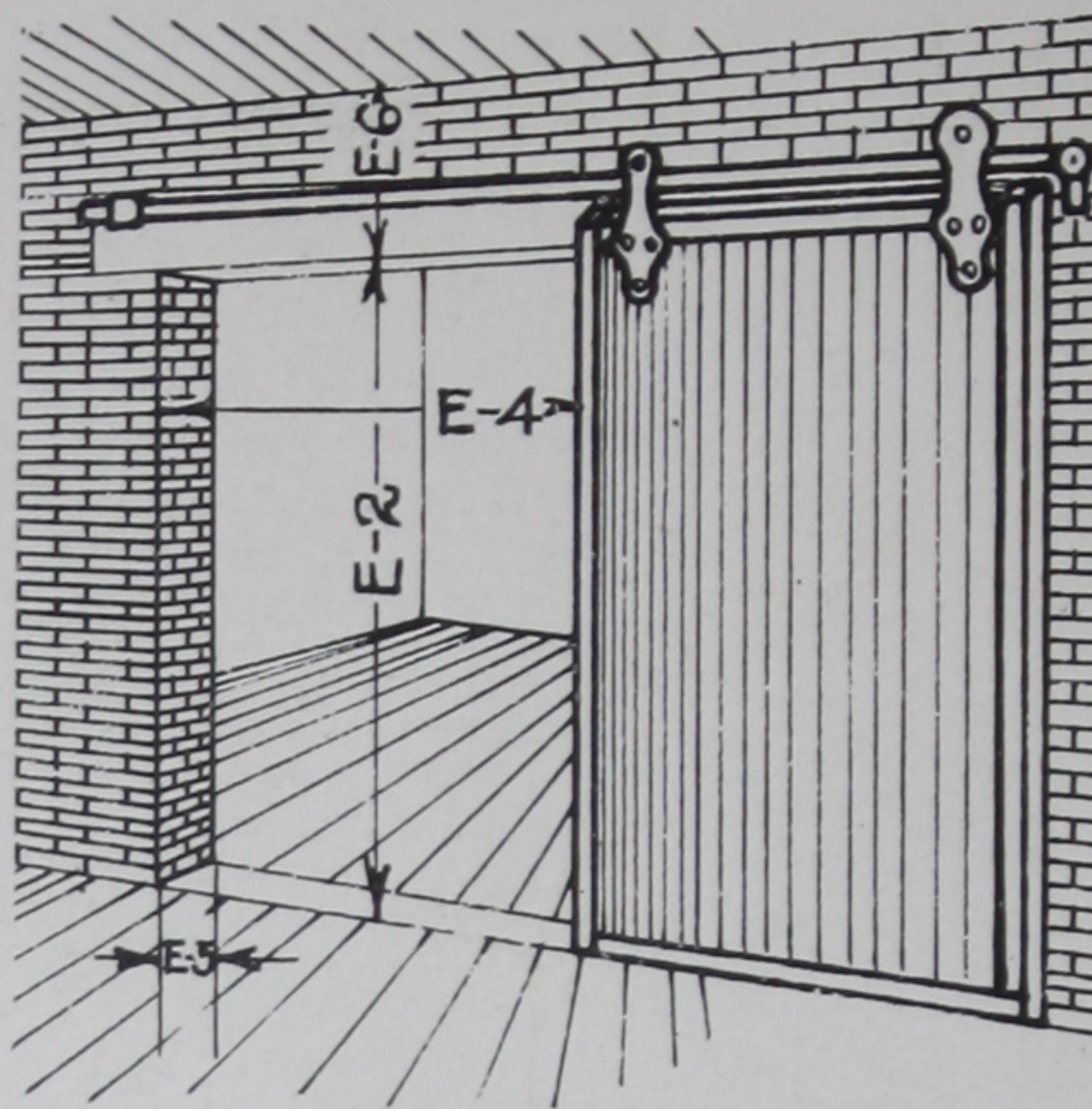


FIG. C—ONE LINK TYPE, WHEN DOOR IS WIDER THAN HIGH

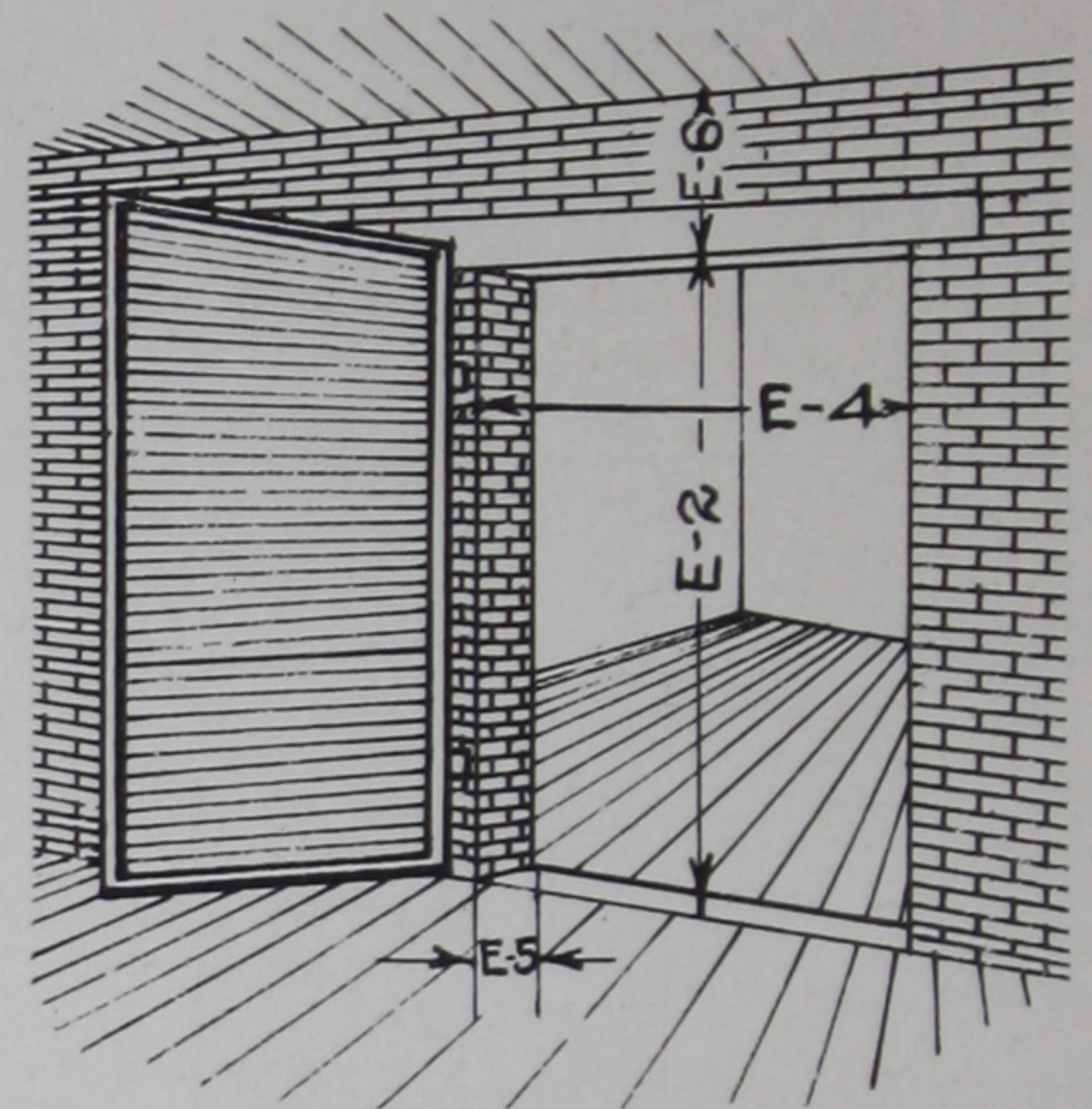




LEFT HAND SLIDING DOOR



RIGHT HAND SLIDING DOOR



LEFT HAND SWINGING DOOR

## Types of Evans "Almetl" Fire Doors

Single Sliding, Right-Hand or Left-Hand.  
Double Sliding.  
Single Swinging, Right-Hand or Left-Hand, Overlap.  
Single Swinging, Right-Hand or Left-Hand, Flush (for Rabbetted opening).  
Single Swinging, Right-Hand or Left-Hand, Flush (not for Rabbetted opening).  
Double Swinging, Overlap.  
Double Swinging, Flush (for Rabbetted opening).  
Double Swinging, Flush (not for Rabbetted opening).  
Vertical Sliding.  
Horizontal Lifting.  
Wired Glass Panel Doors.  
Recessed Doors, for Mono-rail or Overhead Trolley.  
Irregular Shaped or Special Doors.

Sliding Doors, either Single or Double style, are made with Inclined Top, or **straight** (level) top, or **arched** top, as may be required; and Swinging Doors—either single or double—can be made with level top or arched top, as desired. **Arched** tops are special.

**Note.**—We furnish **two-link** fixtures, with all Single Sliding or Single Swinging Doors; and **three-link** fixtures with all Double Sliding or Double Swinging Doors, **excepting** Level Track and Special Level Drop Bracket Hardware, with which **one** Fusible Link only is supplied. Horizontal Lifting Hardware is supplied with **four** Fusible Links.

When doors are to be used on both sides of the wall (or opening) **double** sets of hardware will be required, and the price will accordingly be doubled.

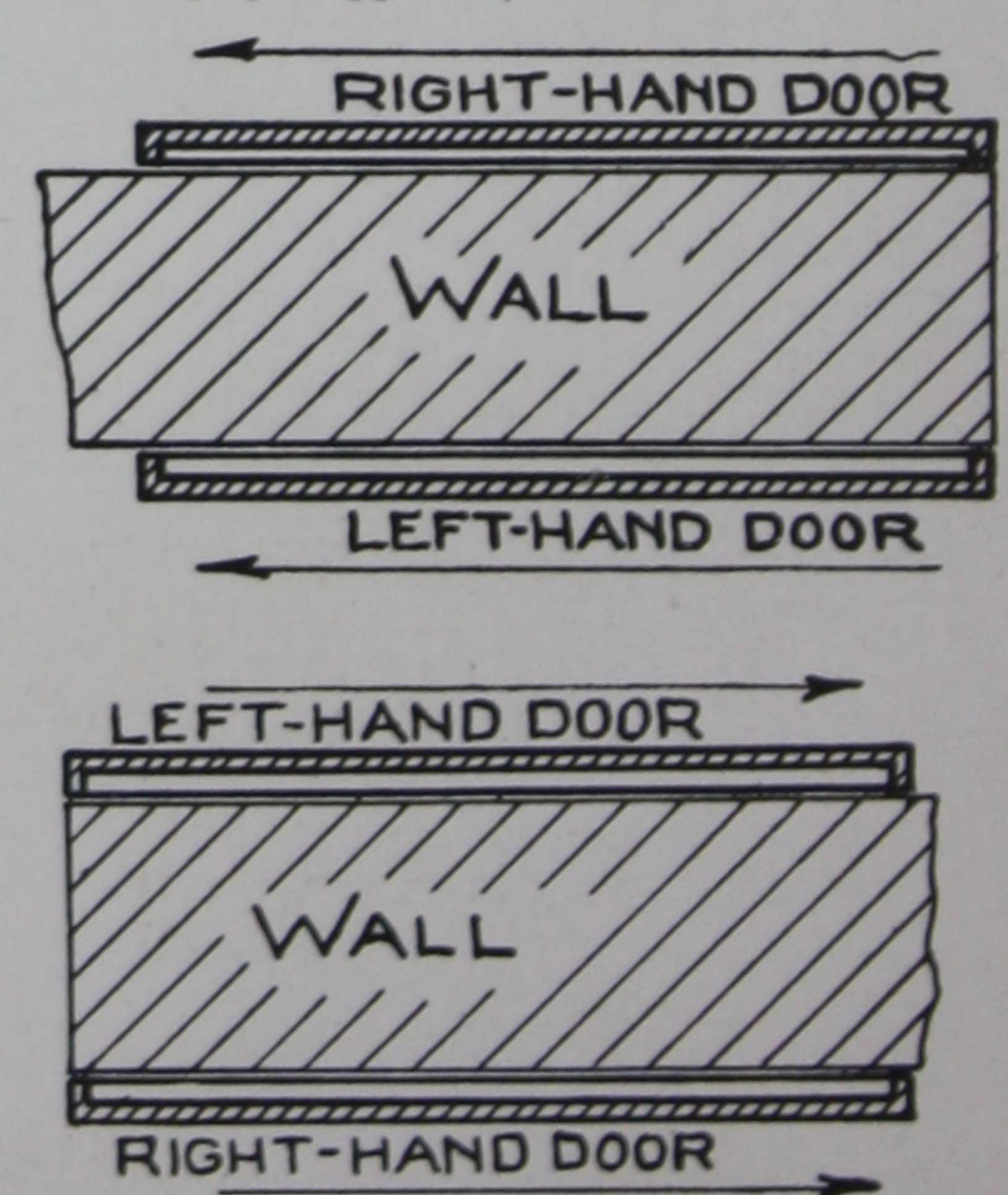
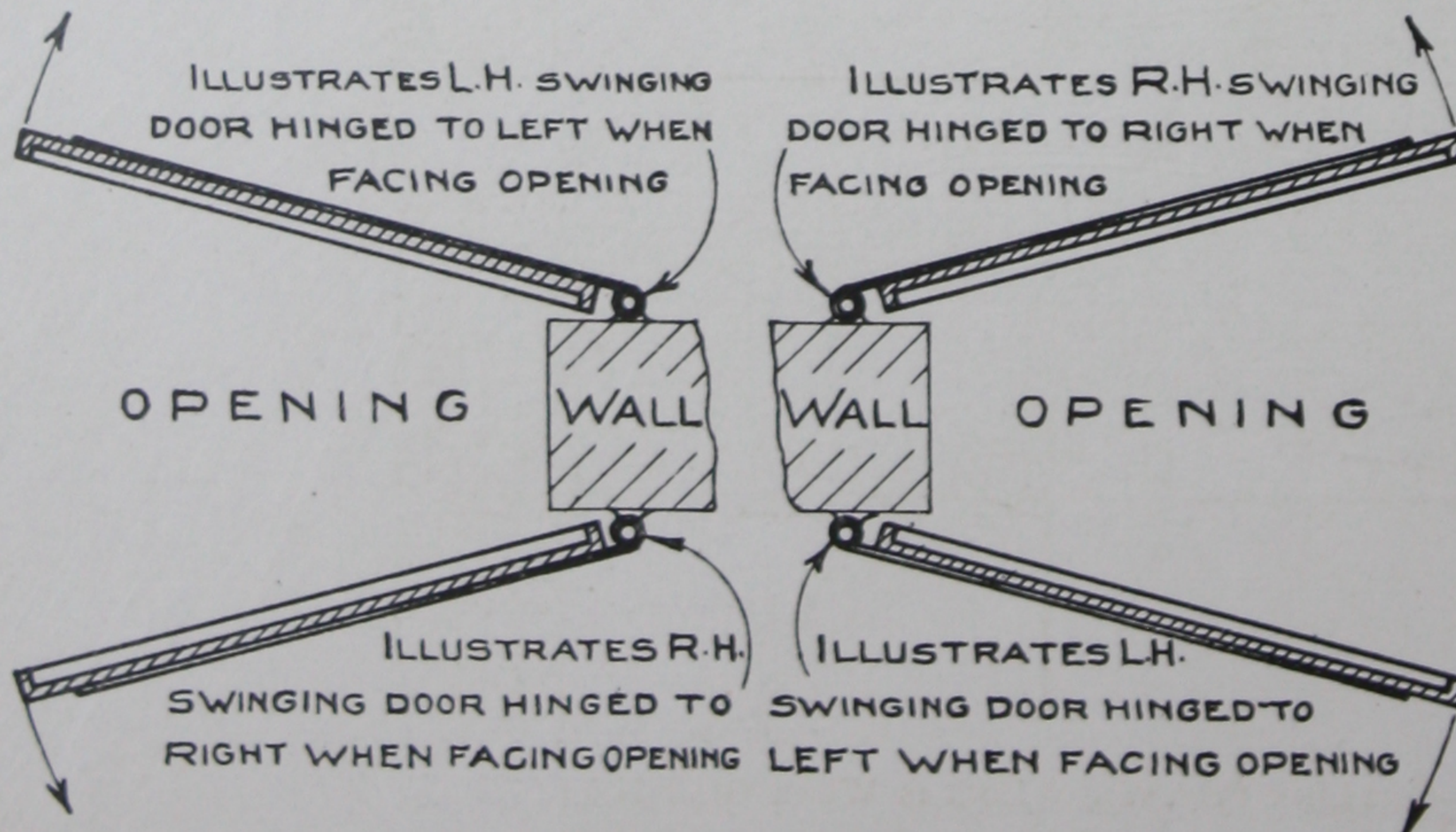
Wall Bolts are never included with any hardware, unless specially ordered, and Counter-balance Weights are not included with Vertical Sliding Door Hardware, unless so ordered.

It is sometimes necessary to conceal Fire Doors in a "Pocket" when used to protect Elevator Shafts and Corridors. In such cases our door, after being hung on the fire wall, is screened by a tile or curtain wall, which is held in place by steel bucks. The fire wall opening is framed with channel iron and front edge of door can be covered with art metal to match finish of jamb. Very complete details are needed for this installation and provision must be made for clearance room.

Tables for estimating areas; data on wall bolts required; plans of special cord arrangements for flat track; erection suggestions and the Regulation of the National Fire Protection Association, will be found on pages 33 to 40 inclusive.

## Types of Hardware for Evans "Almetl" Fire Doors

Single Sliding, Round Track (Malleable) or Flat Track (Wrought).  
Double Sliding, Round Track (Malleable) or Flat Track (Wrought).  
Single Sliding, Level Track (Malleable or Wrought).  
Single Sliding, Special Level Drop Bracket Track (Wrought or Reversed Level (Malleable)).  
Vertical Sliding, Round Track or Flat Track.  
Horizontal Lifting, Round Track.  
Single Swinging (Wrought or Malleable).  
Double Swinging (Wrought or Malleable).  
Non-Automatic (Furnished to order).

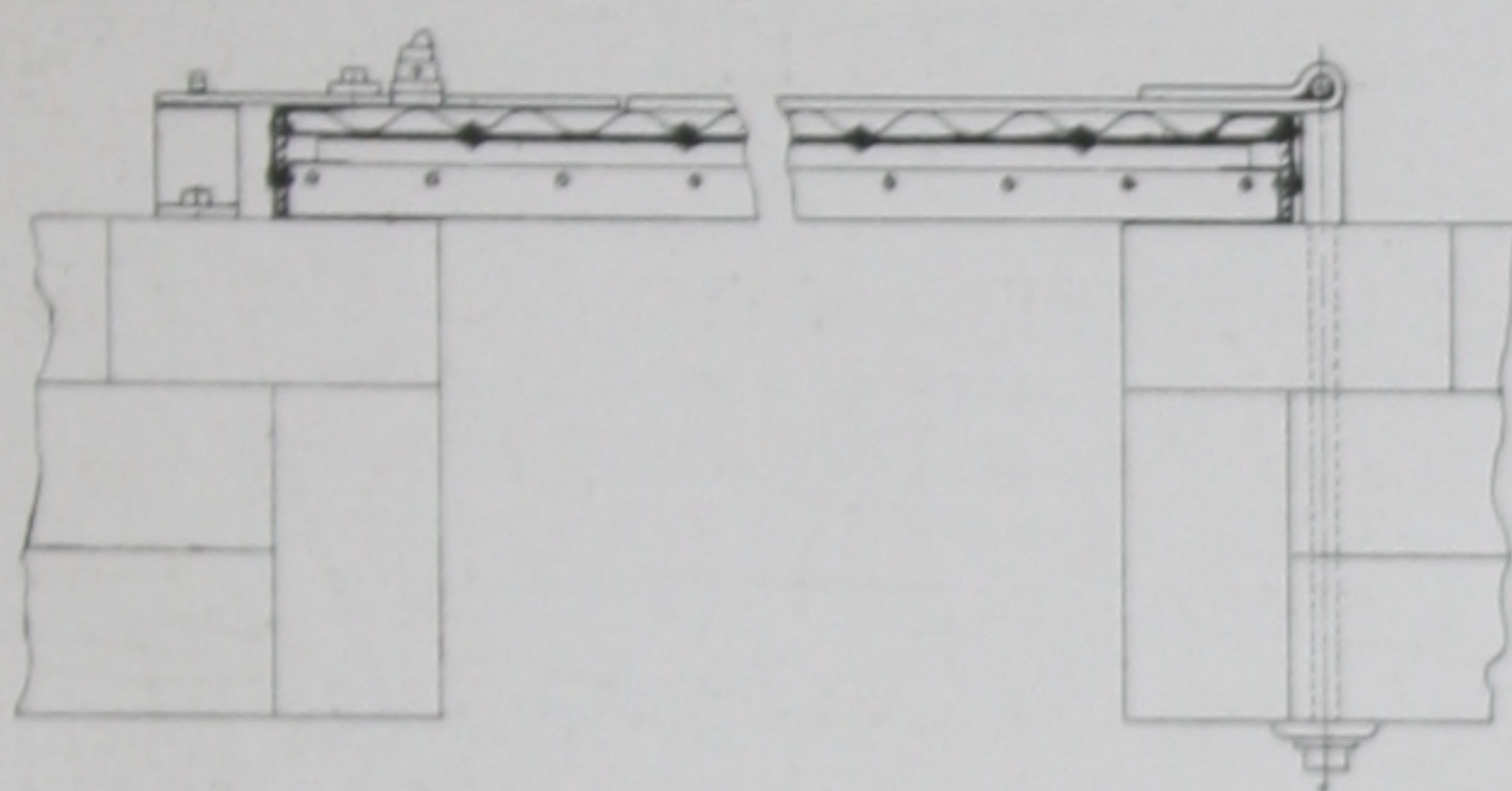






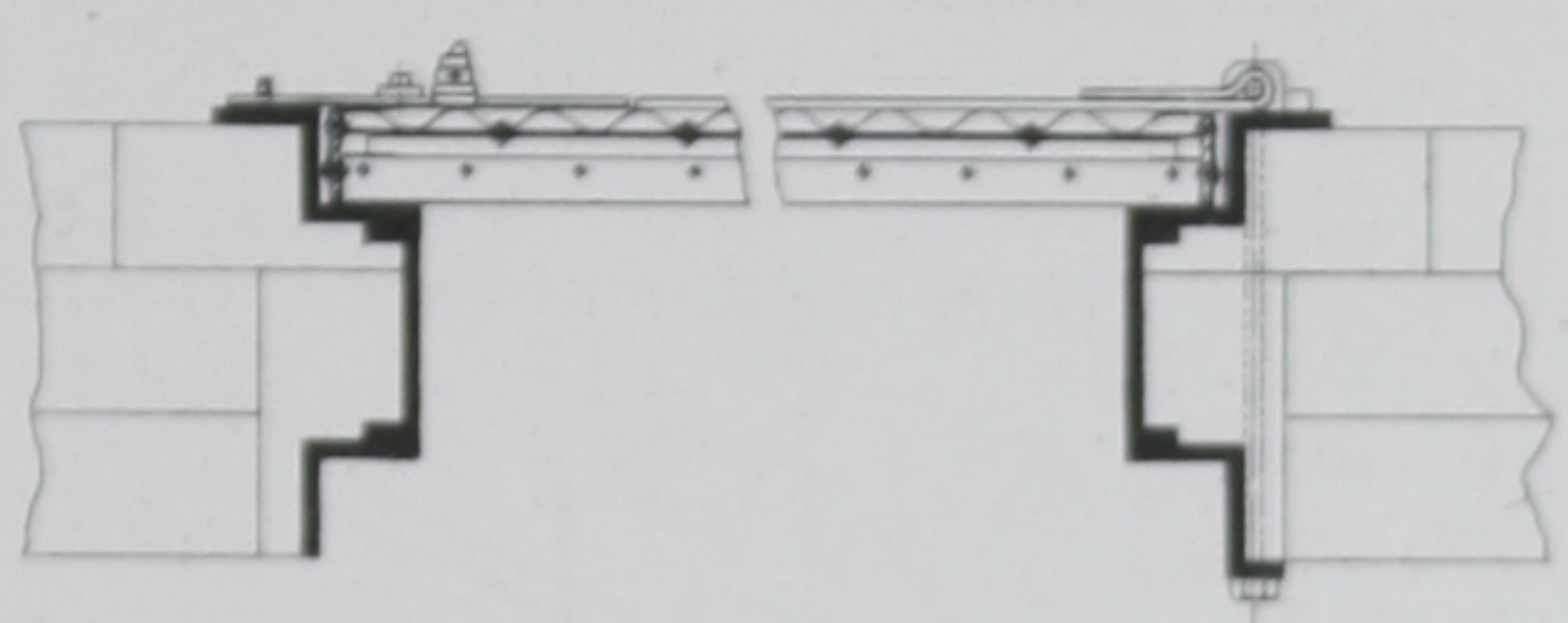
# Information About Swinging Doors

There is so much misunderstanding about Swinging Doors that the following information is given to clearly indicate the different styles:



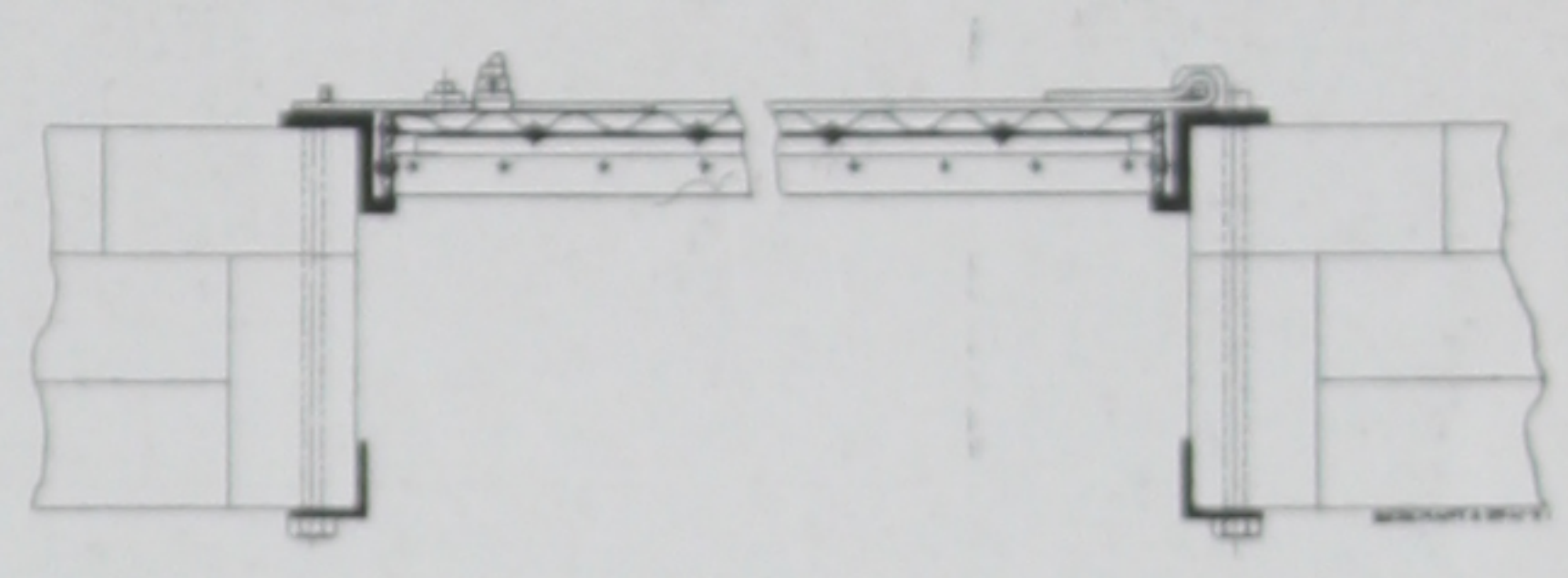
Plan of Overlap Door.

This type of door overlaps the opening 4 inches on each side and 4 inches at top, but if Lintels are not of "approved" type the overlap at top must be 4 inches above the upper edge of the lintel.



Plan of Flush Door, with Angle Iron Frame, Rabbeted Type.

This type of door overlaps the mean dimensions of wall openings 4 inches on both sides and at top. When manufacturing the door we make sufficient allowance to prevent it from fitting too tightly.



Plan of Flush Door, with Angle Iron Frame for Face of Wall.

This type of door is relatively the same size as opening, but must be measured between faces of Angle Iron Frame (if used). When manufacturing the door we make sufficient allowance to prevent it from fitting too tightly.

**Note.**—When Flush Doors are wanted of the Double Swinging type, viz.: two (one pair) Hinged or Swinging Doors to cover one side of any given opening, we make sufficient allowance to prevent these doors from fitting too tightly at top and sides, as well as in the center where the doors come together.

The interpretation of **Double Doors** for **both** sides of an opening would mean supplying two pairs of Double Doors, equal to four Single Doors. All Double (or pair) Doors are furnished with an Astragal Strip, running on the outer edge of **one** of the doors, to prevent them from swinging inward and also prevent passage of flames through the opening in case of fire.

Where Swinging Doors shut into a rabbet in a wall, rabbet should be at least 3 inches by 4 inches, and must have true sides and angles so that door will fit snugly. Always advise us dimensions of rabbet.



## M. & E. R-W Angle Iron Door Frames

RABBETED TYPE

This frame is made of the kind and size material and according to Standard as designated by National Board of Fire Underwriters. The Rabbeted type is best adapted for building in as wall is erected; or it can easily be made to fit and fasten into an opening already constructed.

**Note.**—For price and description of Corbeled Sill illustrated in cut-out, see page 8.

The following price list includes angle iron frame with binder ties, complete for one side of wall as shown. Square top opening.

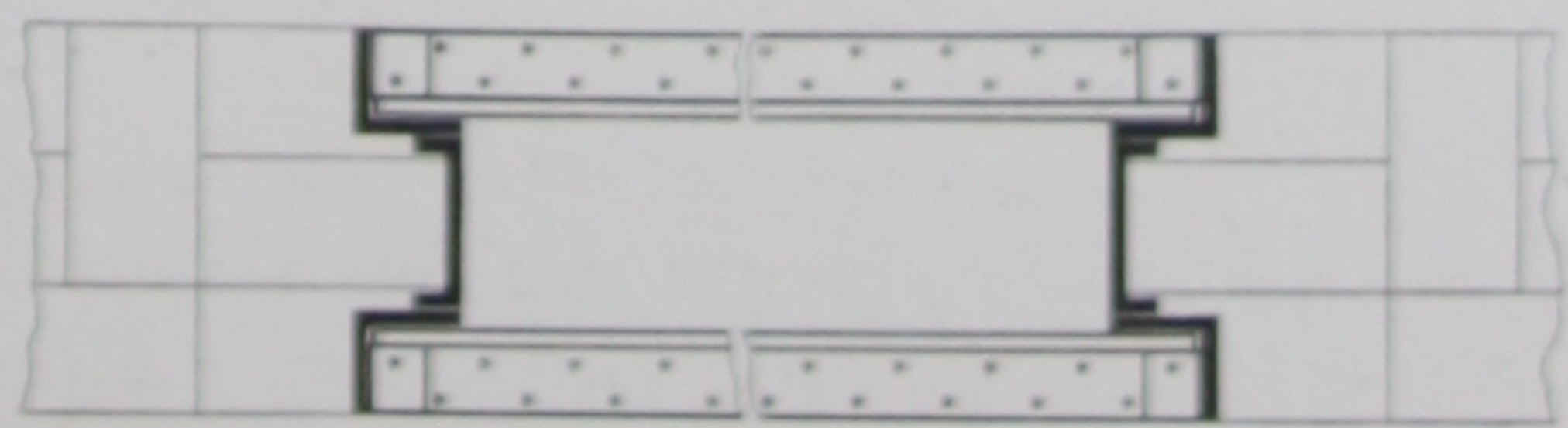
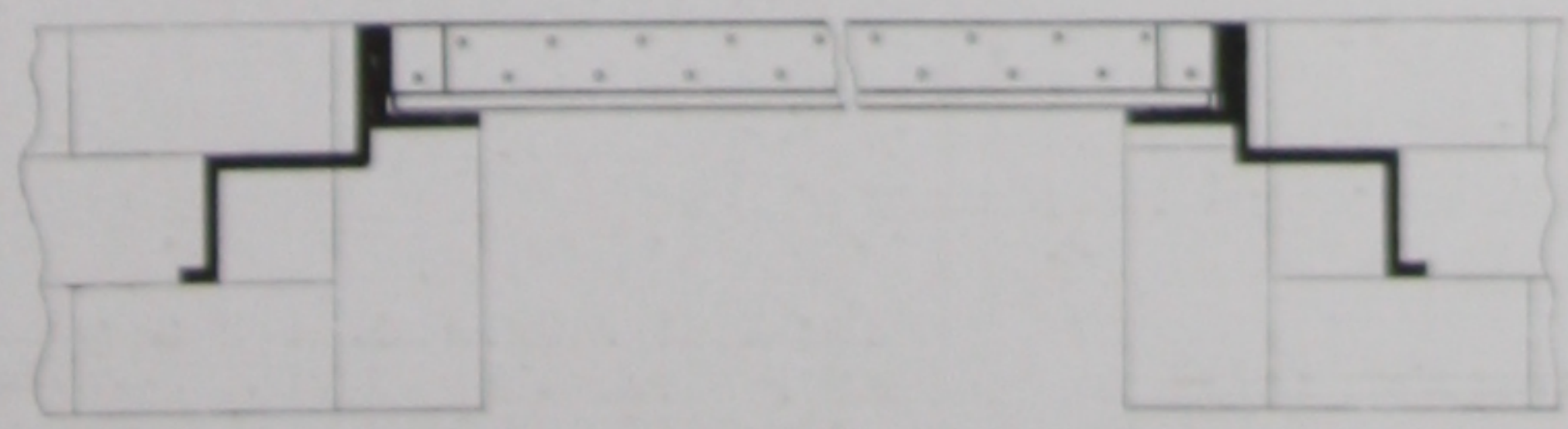
Fixtures are not included in Price List or Weight of Frames. Shipped knocked down.

Size of Openings	For "Almetl" Doors 3" x 3" x 1/2" Angle	
	Price List.	Weight per Opening, Lbs.
3' wide x 7' or under in height.....	\$25.32	110
4' wide x 7' or under in height.....	27.00	116
5' wide x 7' or under in height.....	28.70	120
6' wide x 7' or under in height.....	30.38	125
7' wide x 7' or under in height.....	33.07	130
8' wide x 7' or under in height.....	33.75	135
For frames higher than 7' add per foot of opening.	2.54	12

Subject to change without notice.

**Note.**—Fixtures for rabbeted frame are bolted to wall, not to the frame. Special fixture to bolt to frame can be furnished.

**DIRECTIONS FOR ORDERING.**—*First.* Send sketch with actual dimensions of opening in wall on old work already constructed. On new work state size of door required and frame will be built accordingly. *Second.* State whether frame extends into concrete or rests on sill. *Third.* Is frame to be used on one or both sides of wall? *Fourth.* If for single or pairs of doors. *Fifth.* Thickness of wall.



Flush Door for ONE side of opening. Rabbeted Frame. Flush Doors for BOTH sides of opening. Rabbeted Frame.





# M & E, R-W Angle Iron Door Frame

FOR FACE OF THE WALL

This frame is made of the kind and size material and according to Standard as designated by National Board of Fire Underwriters. This type is best adapted for use in old walls, or after the wall has been erected.

Note.—For price and description of Z Bar Sill illustrated in cut-out, see below.

## PRICE LIST.

The following price list includes angle iron frame with binder ties, complete for one side of wall as shown, square top opening.

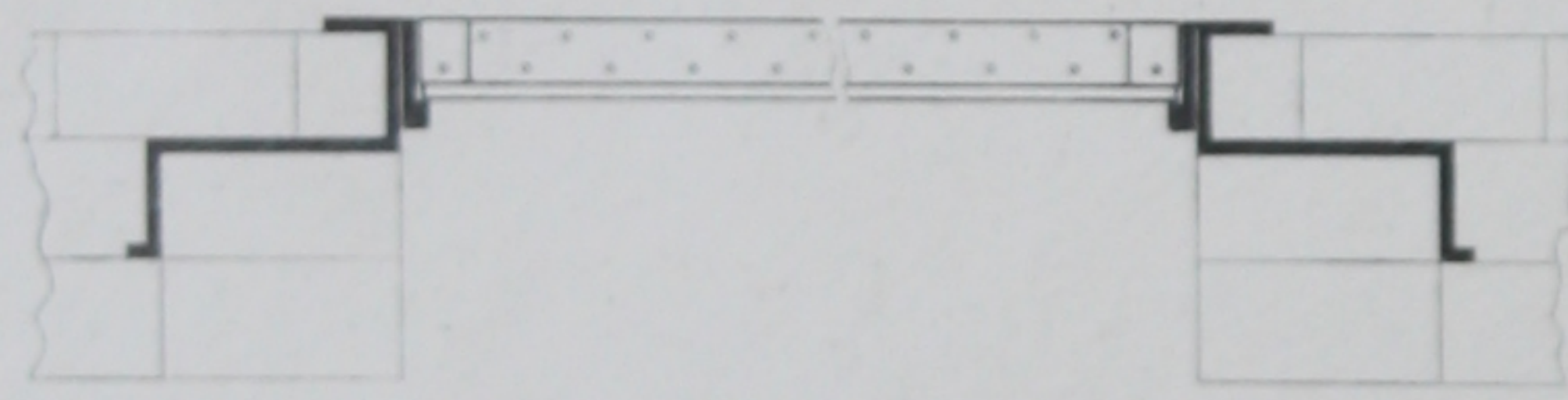
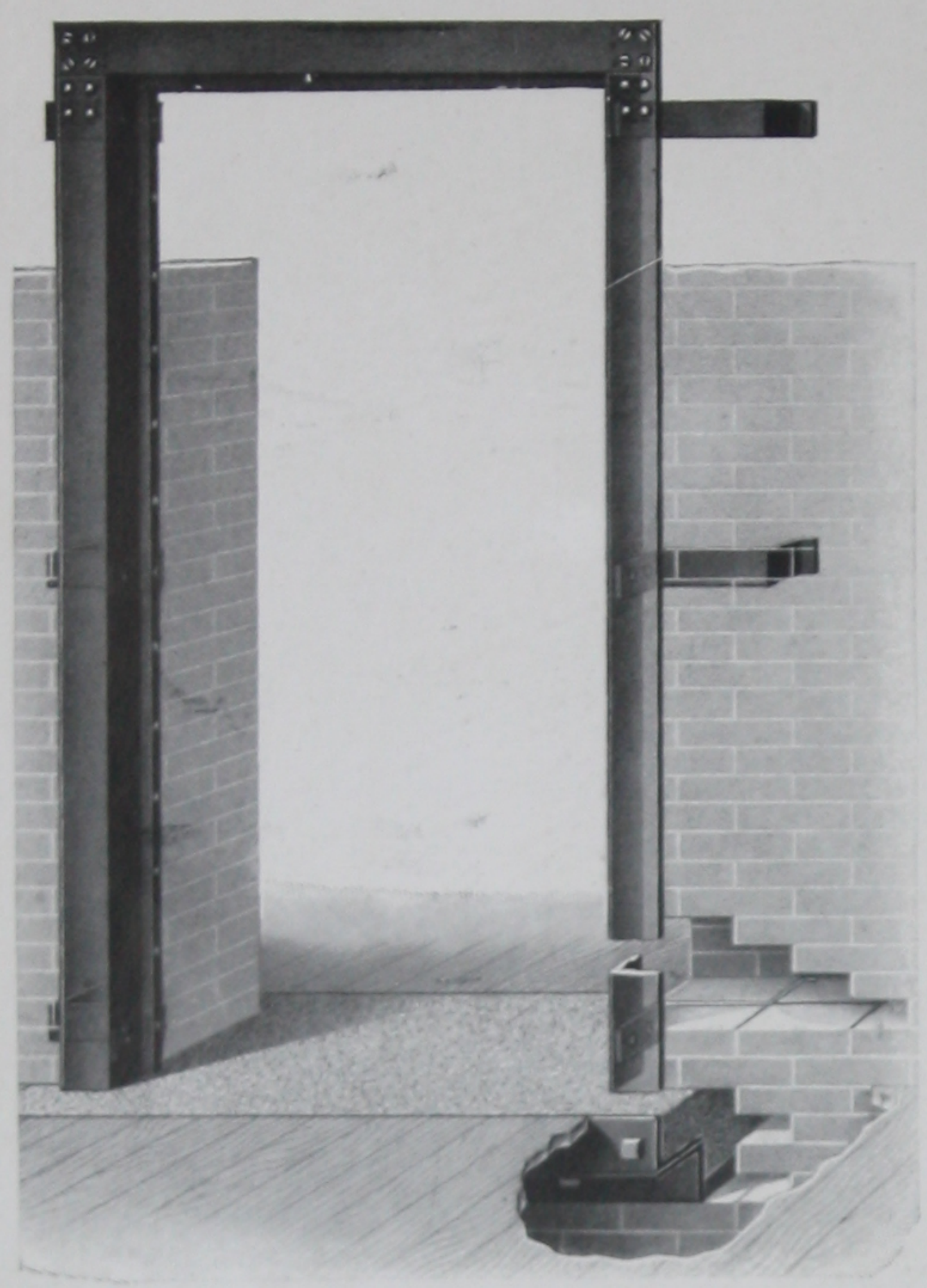
Fixtures are not included in Price List or Weight of Frames. Shipped knocked down.

Size of Door Opening.	For "Almetl" Doors 3 1/2" x 3 1/2" x 1/4" Angle	
	Price List.	Weight per Opening, Lbs.
3' wide x 7' or under in height.....	\$30.38	125
4' wide x 7' or under in height.....	32.06	131
5' wide x 7' or under in height.....	33.75	137
6' wide x 7' or under in height.....	35.45	143
7' wide x 7' or under in height.....	37.13	149
8' wide x 7' or under in height.....	38.82	154
For frames higher than 7' add per ft. of opening.	2.97	14

Subject to change without notice.

Note.—When fixtures are ordered complete with frames, holes are drilled for attaching same, without extra charge.

DIRECTIONS FOR ORDERING.—First. Send sketch with actual dimensions of opening in wall on old work already constructed. On new work state size of door required and frame will be built accordingly. Second. State whether frame extends into concrete or rests on sill. Third. Is frame to be used on one or both sides of wall? Fourth. If for single or pairs of doors. Fifth. Thickness of wall.



FLUSH DOOR FOR ONE SIDE OF OPENING—  
NOT RABBETED FRAME



FLUSH DOORS FOR BOTH SIDES OF OPENING  
—NOT RABBETED FRAME

## M & E, R-W Angle Iron Sills

All the sills illustrated are manufactured according to the Standard Specifications and Rules of the National Board of Fire Underwriters.

Sills as shown in Figs. 1 and 3 are a combination of angle irons and concrete. This makes a very substantial threshold, and when the concrete is worn it can be replaced at a very small expense.

Sill as shown in Fig. 2 is the same as Fig. 1 with the addition of a steel plate on top of concrete. Plate should be always assembled to angle irons on jobs, unless otherwise specified.

Sill as shown in Fig. 4 is a combination of Z bars and concrete. The same lasting qualities as mentioned for sills as shown in Figs. 1 and 3.

State thickness of walls so bolts can be sent of the proper length or plate of the proper width, as same are included in the price of the sills.

## PRICE LIST.

Size of Opening Feet	Fig. 1 3 1/2 x 5 x 3/8 in. angle for flush sill, with bolts	*Fig. 2 3 1/2 x 5 x 3/8 in. angle and 1/4 in. Steel Plate for sill, with bolts	Fig. 3 3 1/2 x 6 x 3/8 in. angle for Corbeled sill, with bolts	Fig. 4 4 x 4 x 3/8 in Z bars for sills, with bolts
3	\$13.50	\$24.47	\$15.20	\$24.47
4	16.88	30.38	18.57	30.38
5	20.25	36.29	21.95	36.29
6	23.63	42.20	25.32	42.20
7	27.00	48.09	28.70	48.09
8	30.38	54.00	32.07	54.00

Subject to change without notice.

\*Plates included in Price List up to 13-inch wall. Over 13 inches, price will be quoted on application.

DIRECTIONS FOR ORDERING.—First. State exact width of opening (and angle iron or Z bars will be furnished long enough to extend 6 inches into wall on either side). Second. State thickness of wall. Third. On Fig. 2 sills state if plate is desired the full length of the angle irons as required by the rules or the width of the opening. Also state width of wall, so plate of correct width is furnished.



FIG.1 ANGLES FOR FLUSH SILL



FIG.2 ANGLES AND STEEL PLATE SILL

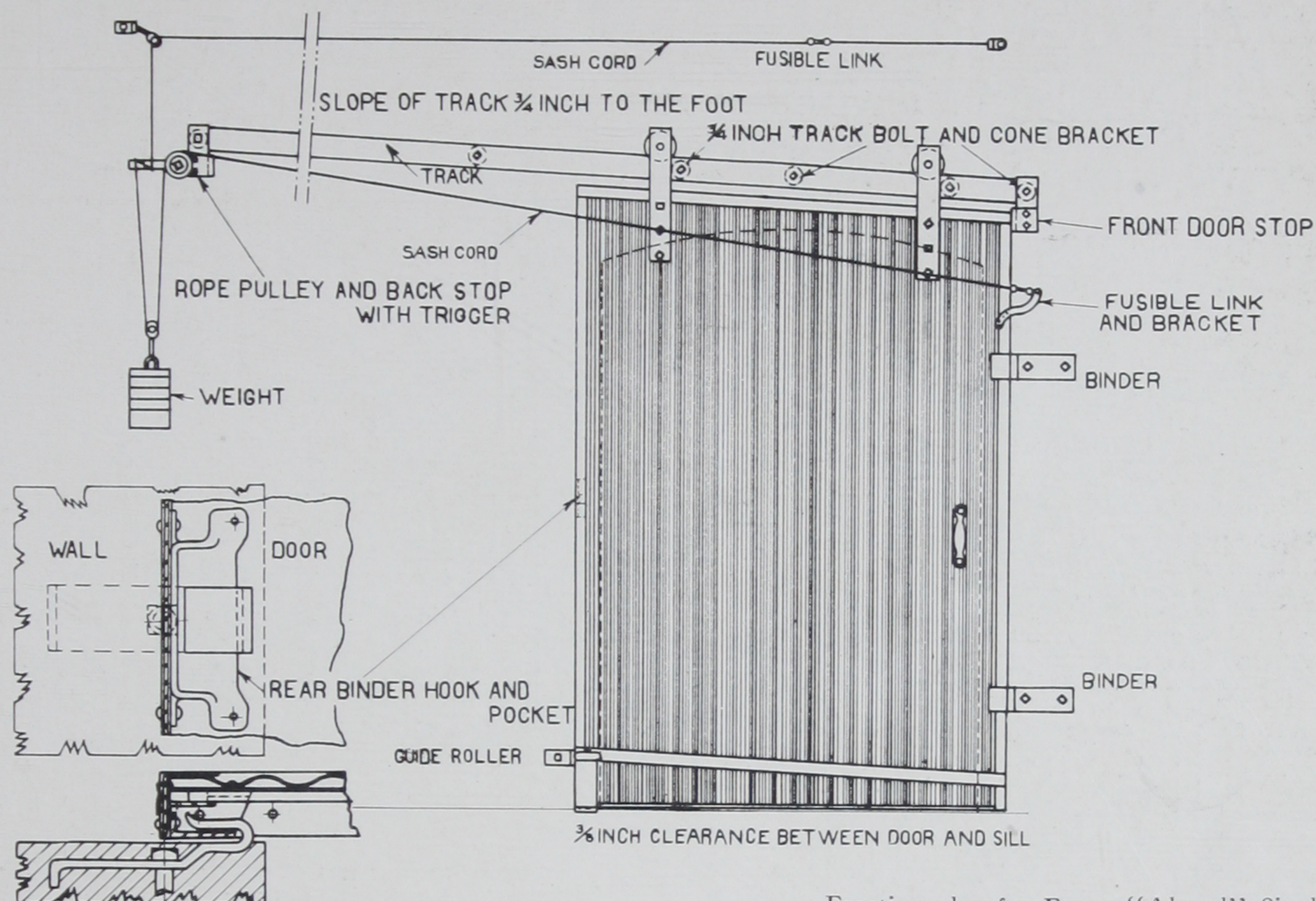


FIG.3 ANGLES FOR CORBELED SILL

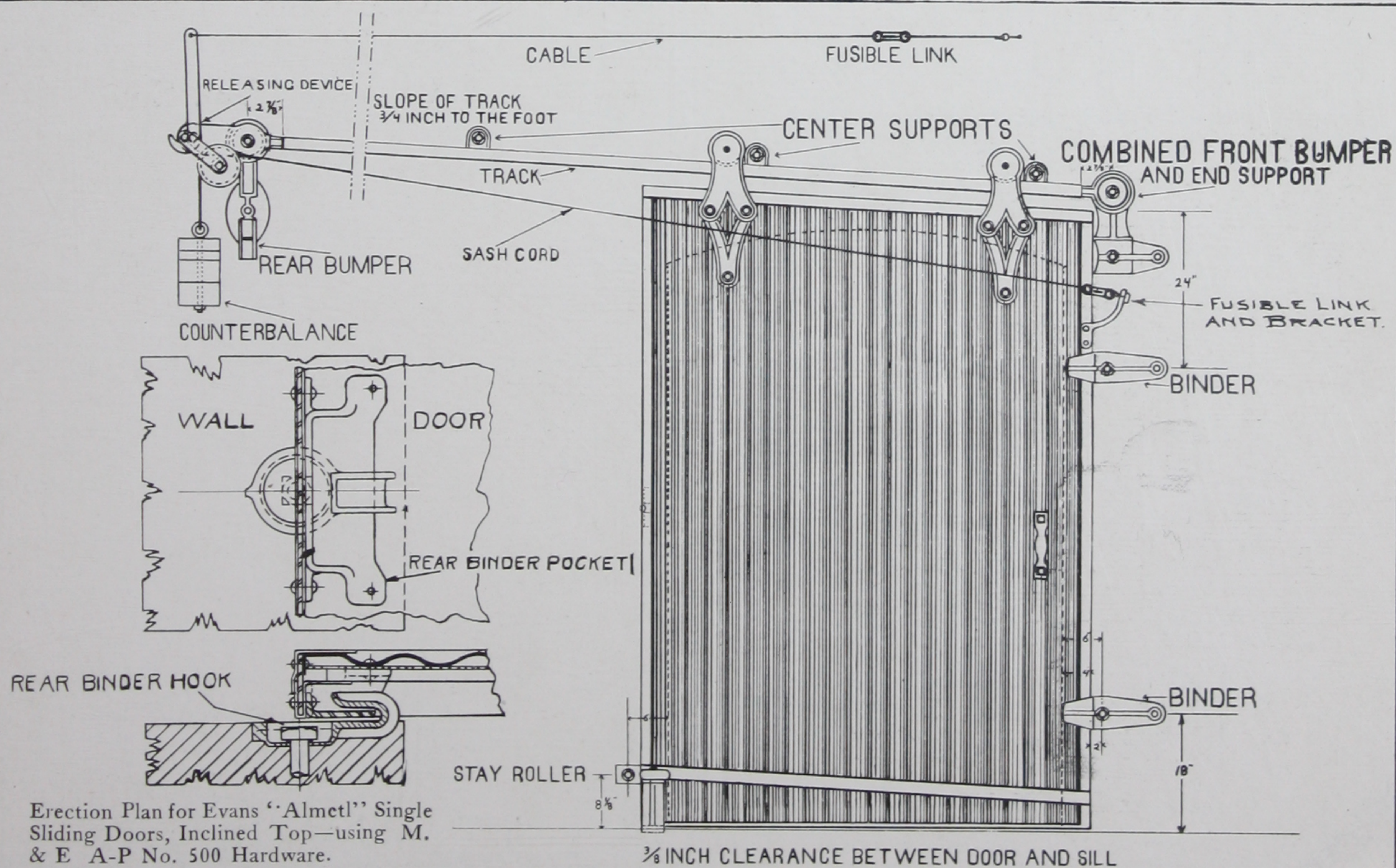


FIG.4 Z BARS FOR SILLS





Erection plan for Evans "Almetl" Single Sliding Fire Doors, Inclined Top—using M. & E. R-W No. 102 Hardware,



Erection Plan for Evans "Almetl" Single Sliding Doors, Inclined Top—using M. & E. A-P No. 500 Hardware.



# DIRECTIONS FOR MOUNTING

**Pintels.** Pintels for lap and rabbetted flush doors are attached to wall plates and are bolted to the wall with 3/4" machine bolts extending thru pintel, wall plate & wall. Locate pintels so hinges will be equal distance from top and bottom of door. The center of the pintel should be 2" from the edge of the door, not opening. Flush doors require 1/2" clearance between door and frame. Pintels for flush doors with angle iron frame do not require wall plate but are bolted to the frame with two 3/4" bolts.

**Hinges.** Place the door in closed position with at least 3/4" blocking under door. Place hinges in pintels and mount bolt hairs on doors, remove doors and drill holes for 3/4" bolts. Attach hinge angles to back side of door with 3/4" rivets. The oval hole in hinge angle should be opposite bolt hole.

**Latch.** Bolt pivot end of latch bars to the hinges as shown in the detail. Bolt hinges to door with 3/4" flat head bolts. Latch end of hinge should have large square washers under the nut on the back side of the door. When the number of latch bars are not equal to the number of hinges, the pivot end of the center latch bar is bolted directly to the door using the special pivot plates with long oval holes, on each side of the door, see detail in lower left hand corner. Small offset plates are bolted to the frame of the door to guide each latch bar excepting the one with which the operating handle is to be used. The large offset plate for the operating handle is used on the front of the door and the flat plate on the back of the door. The offset base plate is used beneath the large offset plate with the latch bar between the two plates (see 3/4" bolts for all offset plates). Bolt spring to door with 3/4" bolt.

**Keepers.** Keepers are attached to wall plates. Keepers for lap doors are bolted thru the wall with 3/4" machine bolts using 4" round cast washers on the opposite side of the wall. Keepers for rabbetted flush doors are bolted thru wall with 1/2" machine bolts and 2 1/2" square steel washers on the opposite side of the wall. Keepers for flush doors with angle iron frame, bolt directly to the frame with 3/4" bolts. Note, washers are not required when doors are used on both sides of wall.

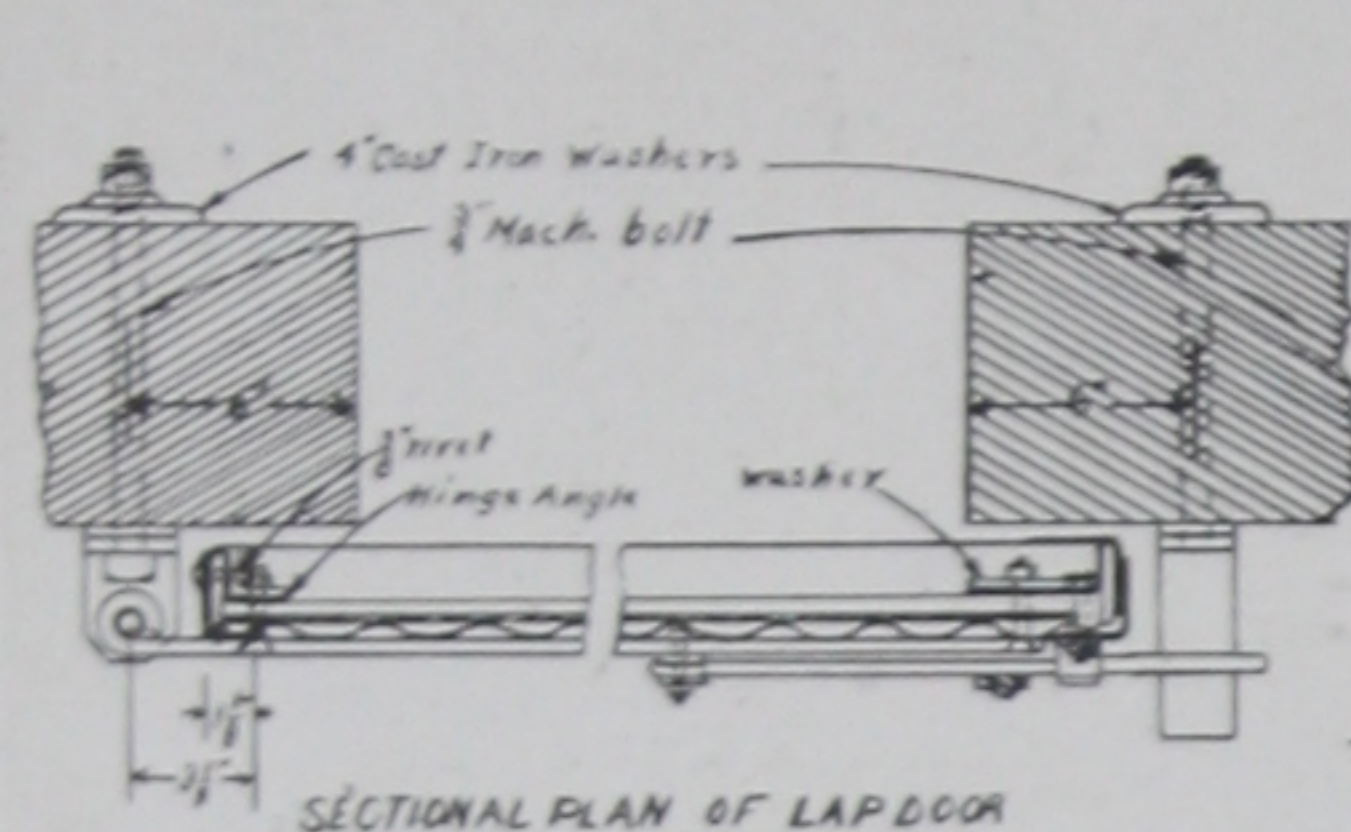
**Chain Angle.** Attach chain angle to the front of the door near top with 3/4" machine bolts as shown.

**Chain Pulleys.** Attach #206-029 chain pulley to wall above door with 3/4" expansion bolts in such position that groove in pulley will be in line with hole in chain angle to which chain is attached. Attach #406-065 pulley to the wall so top of groove is in line horizontally with groove of #206-029 chain pulley. #406-065 chain pulley bolt holes should be 10" from edge of door, use 3/4" expansion bolts.

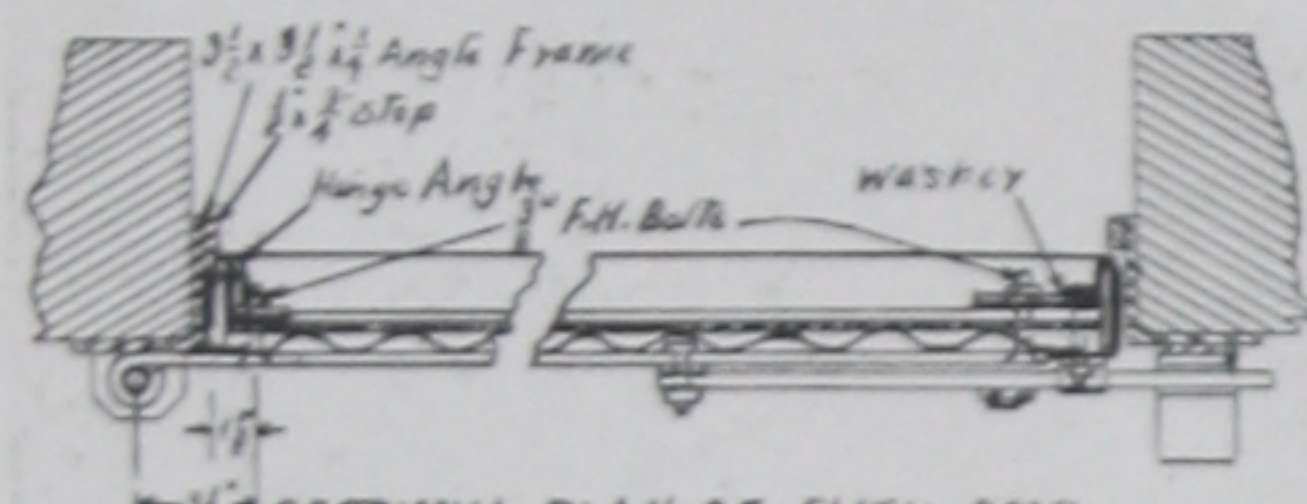
**Friction Link.** Fasten #206-043 center pulley to wall above door so that friction link will be over center of opening. Attach wire to wall near ceiling with 3/4" expansion bolt. Fasten the wire to wire angle, pass around pulley and fasten to eye in #406-065 trigger. Draw wire so top of trigger will be horizontal.

**Chain Weights.** Hang #406-064 chain weights on fork of trigger. Pass one end of chain up thru hole in weight, over groove in #406-065 pulley, around groove of #206-029 pulley & attach to hole in chain angle by securing a friction ring in end of chain. Attach #206-029 weights to opposite end of chain, which should be long enough to allow doors to swing open slightly past 90 degree angle only.

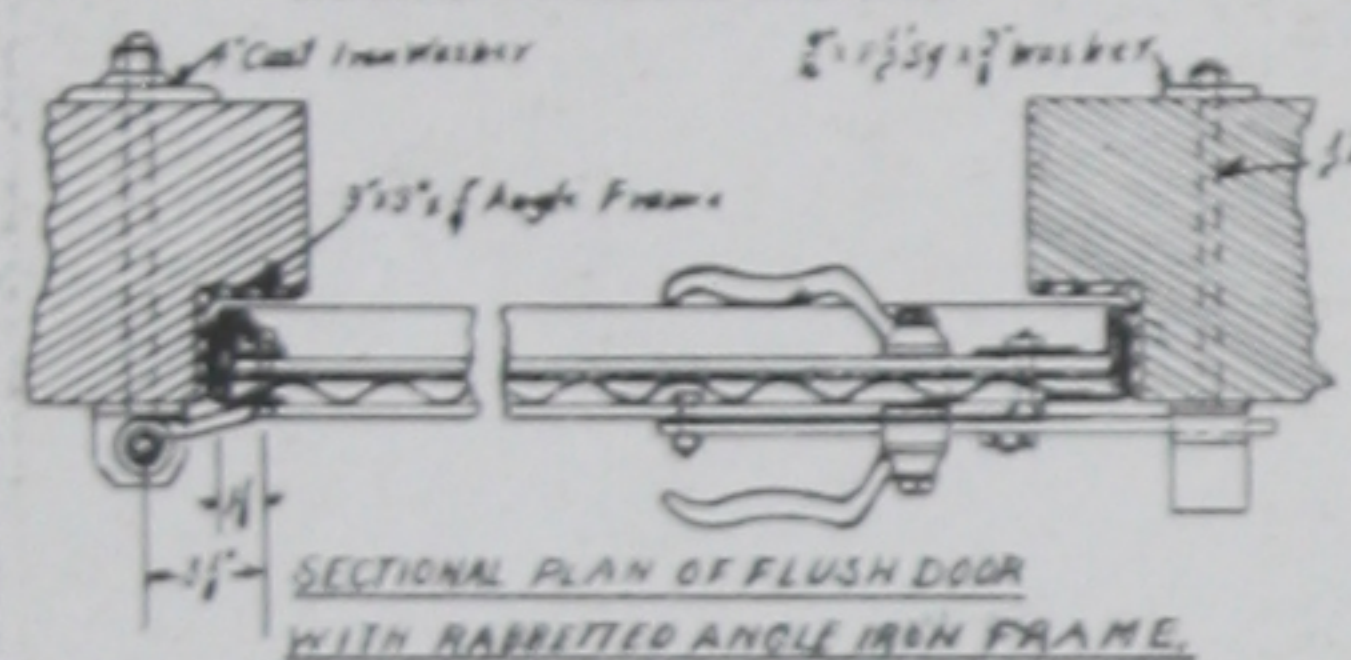
**Washers.** All 3/4" machine bolts passing thru wall require 4" cast washers on opposite side of wall. Washers are not required when doors are used on both sides of wall.



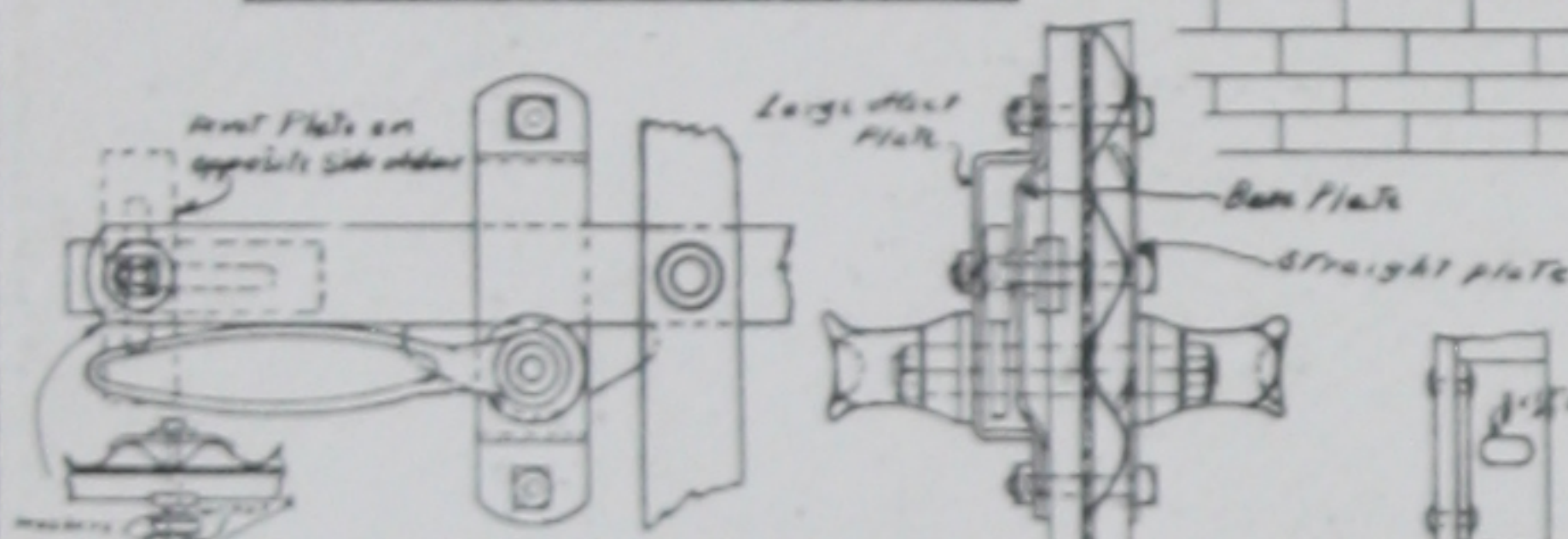
SECTIONAL PLAN OF LAP DOOR



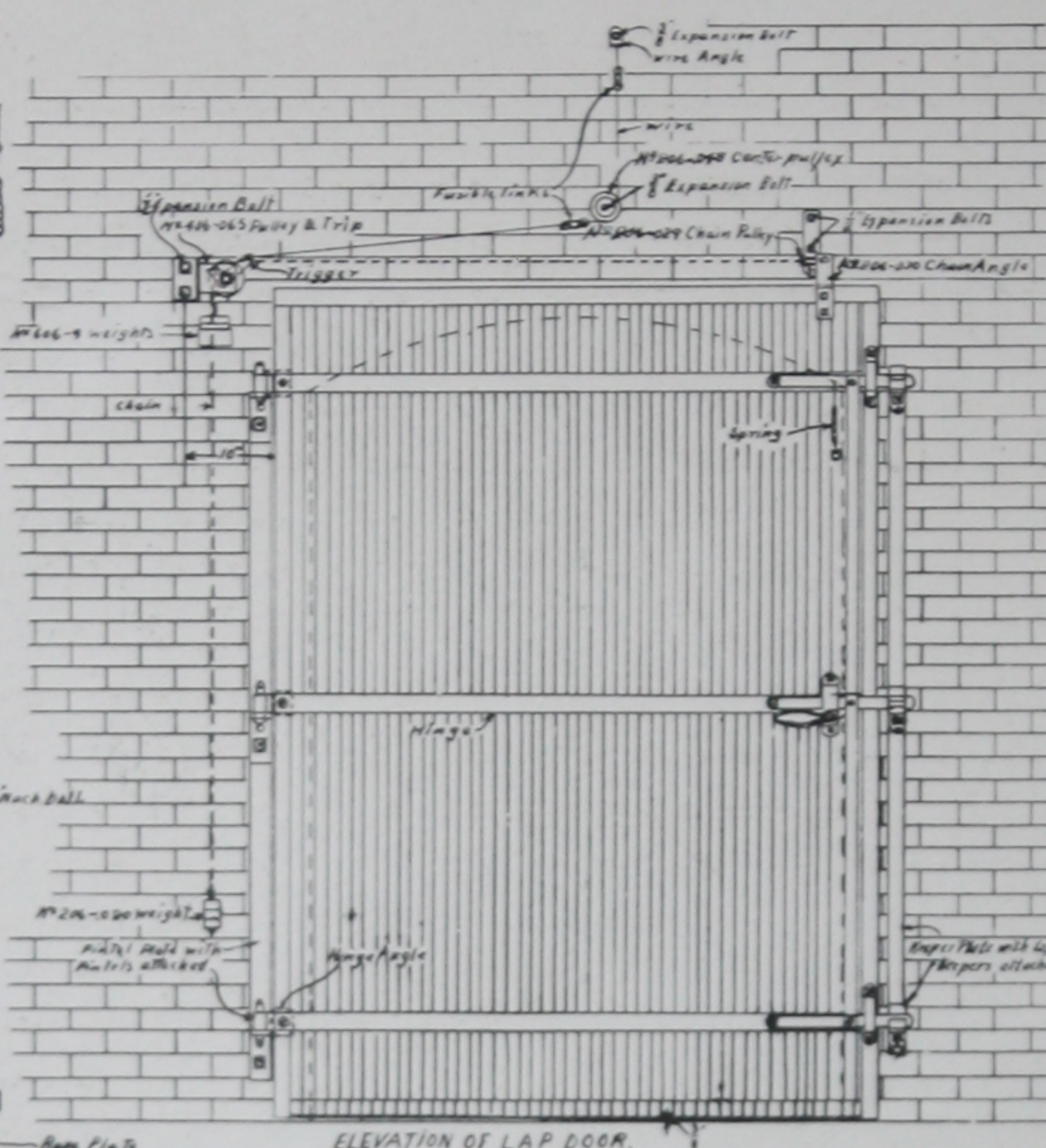
SECTIONAL PLAN OF FLUSH DOOR WITH ANGLE IRON FRAME



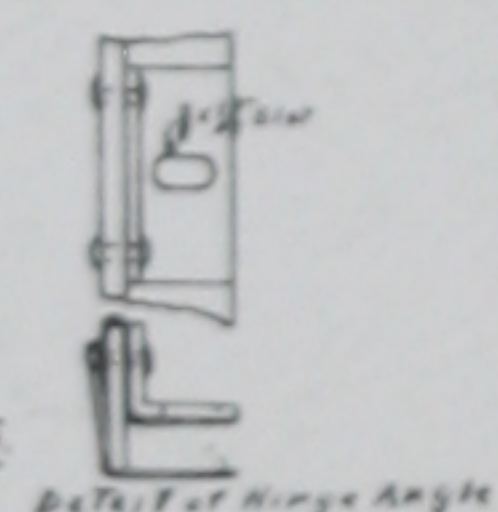
SECTIONAL PLAN OF FLUSH DOOR WITH RABBETTED ANGLE IRON FRAME



DETAIL SHOWING APPLICATION OF CENTER LATCH BAR WHEN NUMBER OF LATCH BARS EQUALS NUMBER OF HINGES



ELEVATION OF LAP DOOR



Detail of Hinge Angle

Erection Plan for Evans "Almetl" Single Swinging Overlap Type Fire Doors, using M. & E. R-W No. 406 Hardware.

# DIRECTIONS FOR MOUNTING

**Pintels.** Pintels for lap rabbetted flush doors are attached to wall plates & are bolted to wall with 3/4" bolt extending thru pintel, wall plate & wall. Locate the pintels so hinges will be equal distance from top & bottom of door, center of pintel should be 2" from top of door (not opening). Flush doors require 1/2" clearance between door & frame. Pintels for flush door with angle iron frame do not require wall plate but are bolted to the frame with two 3/4" bolts.

**Hinges.** Place doors in closed position with at least 3/4" blocking under door, place hinges in pintels & mount bolt hairs on doors, remove doors & drill holes for 3/4" bolts, attach hinge angle to back side of door with 3/4" rivets, the oval hole in hinge angle should be opposite the bolt hole.

**Latch.** Bolt pivot end of latch bar to the hinges for door which is to swing left as shown in detail, bolt all the hinges to the doors with 3/4" flat head bolts. End of hinge fastened to door should have large square washers under the nut on the back side of door when the number of latch bars are not equal to the number of hinges the pivot end of the center latch bar is bolted directly to door using the special pivot plates with long oval holes, see detail. Small offset plates are bolted to the frame of the door to guide each latch bar excepting the one with which the operating handle is to be used. The large offset plate for the operating handle is used on the front of the door. The offset base plate is used beneath the large offset plate with the latch bar between the two plates. The flat plate is used on the back of the door line 3/4" bolts for all offset plates. Attach spring to the door with 3/4" bolt.

**Keepers.** Attach keepers to door with 3/4" bolts as shown.

**Door Pulls.** Attach #406-065 door pull to back side of standing door with 3/4" bolt. Pull should be attached to door with 3/4" bolt. Attach handle to the center of door on the front side, the handle plates to the door with 3/4" bolts, chains should be connected to wall plates in handle lower & upper. The pull to which the small gravity weight is attached should always be used at top, attach bottom keeper to wall with 3/4" bolts, attach top keeper to wall with 3/4" expansion bolts, when doors are used on both sides of wall the bolts should be attached to the face of the door, no attachment plates are required.

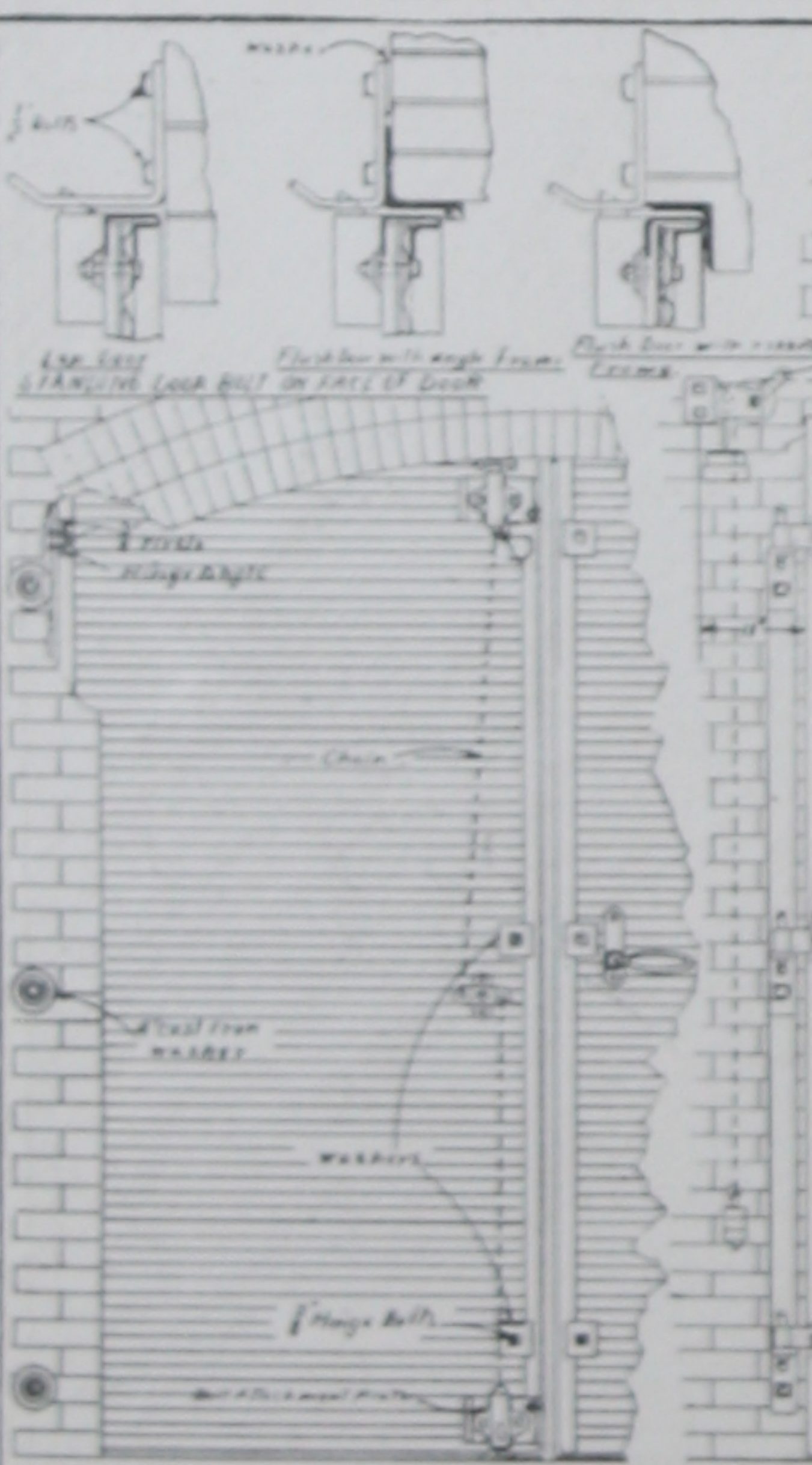
**Door Control.** Attach door control to the wall over the center of opening 3" above top of door with 3/4" expansion bolts, fast to wire that long arm drops down enough to strike top of door. If chain latches are attached, short arm should not drop low enough to puncture and catch on the other door. If door bumper should be under side of top of door at the place where long arm strikes door. Bolt door control to face of standing door opposite to point where short arm contacts with door & just high enough to lift arms into horizontal position.

**Chain Angle.** Attach chain angle to top of door near the latch side with 3/4" bolts. **Chain Pulleys.** Attach #206-029 chain pulley to wall above door with 3/4" expansion bolts in such position that the groove in the pulley will be in line with hole in chain angle. Attach chain to the wall so top of groove is in line horizontally with the groove of #206-029 chain pulley, #406-065 bolt holes should be 10" from the door, use 3/4" expansion bolts.

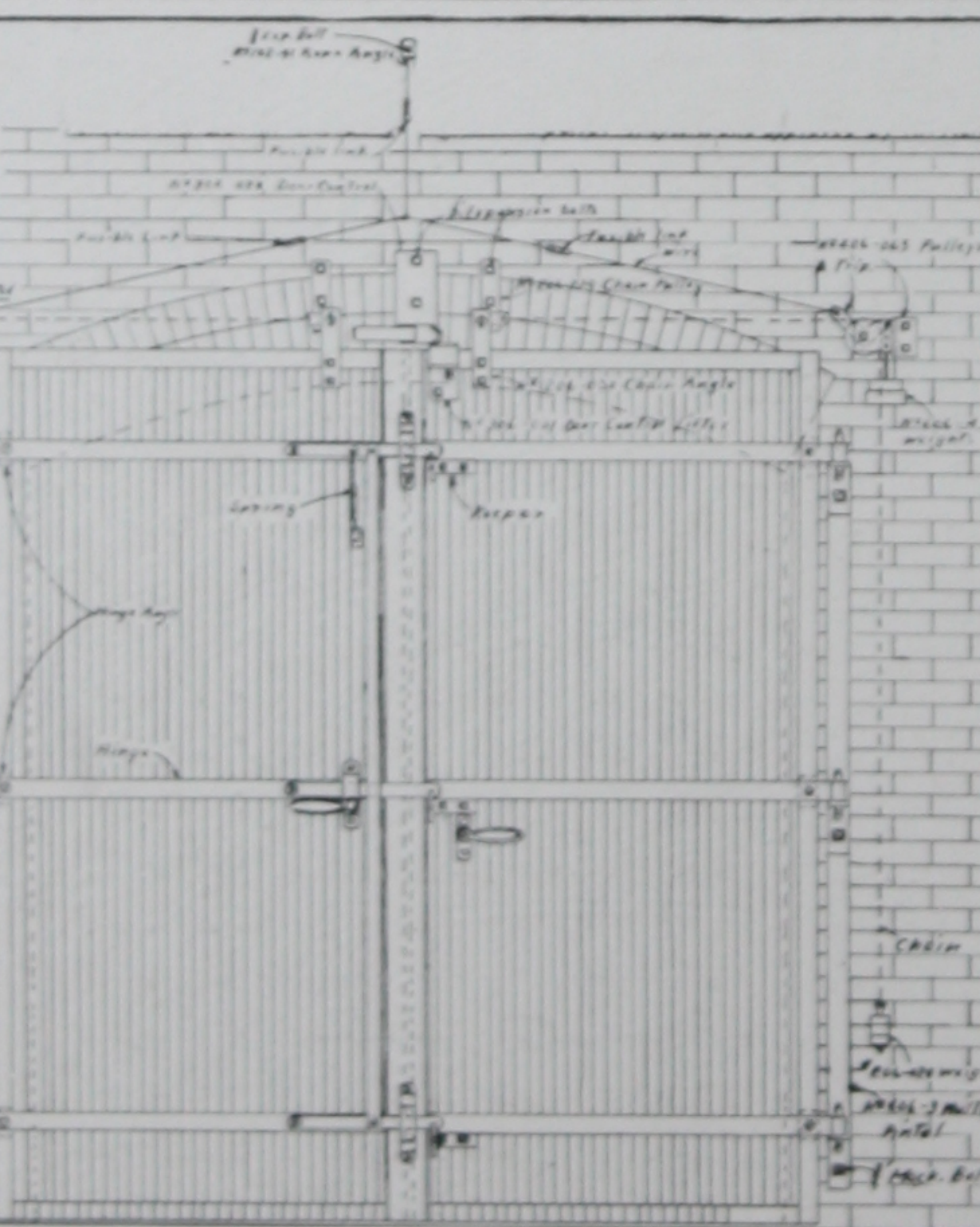
**Friction Link.** Attach wire angle to wall near ceiling walling with 3/4" expansion bolt. Arrange wires as shown in elevation using 3/4" friction link. Upper end of wire is attached to wire angle, lower ends of wire are attached to end of #406-065 triggers, draw wire so top of trigger fork will be horizontal.

**Chain Weights.** Hang #406-064 chain weights on fork of trigger. Pass one end of chain up thru hole in weight, over groove in #406-065 pulley, around groove of #206-029 pulley & attach to hole in chain angle by securing a friction ring in the end of the chain. Attach #206-029 weights to the opposite end of the chain, which should be long enough to allow doors to swing open slightly past 90 degree angle only.

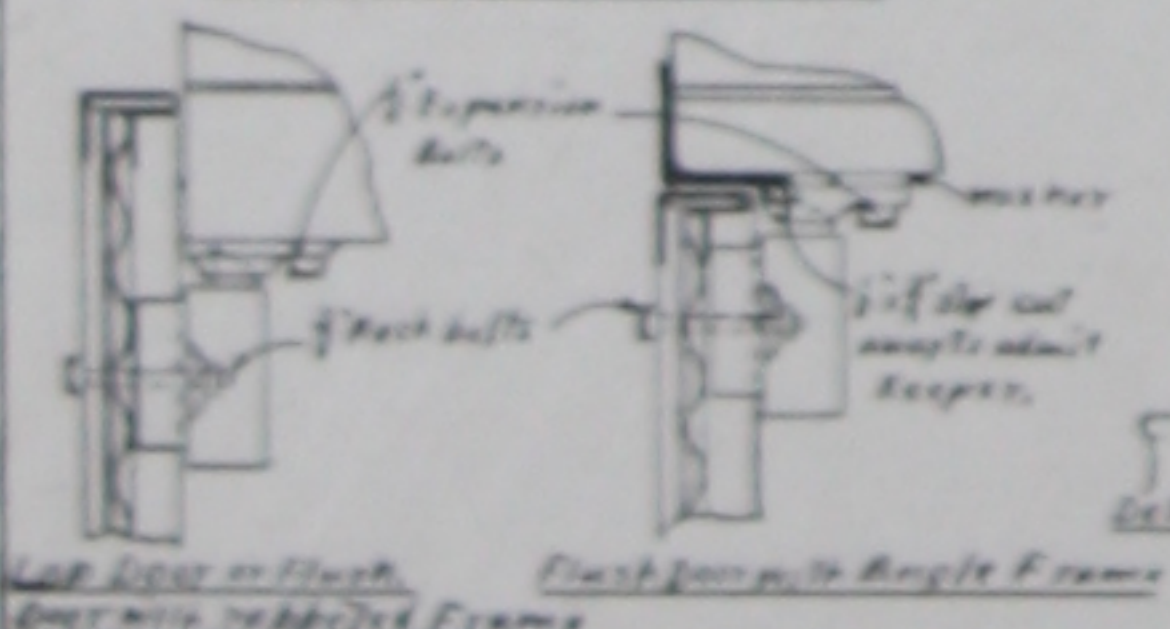
**Washers.** All 3/4" machine bolts passing thru wall require 4" cast washers on opposite side of wall. Washers are not required when doors are used on both sides of wall.



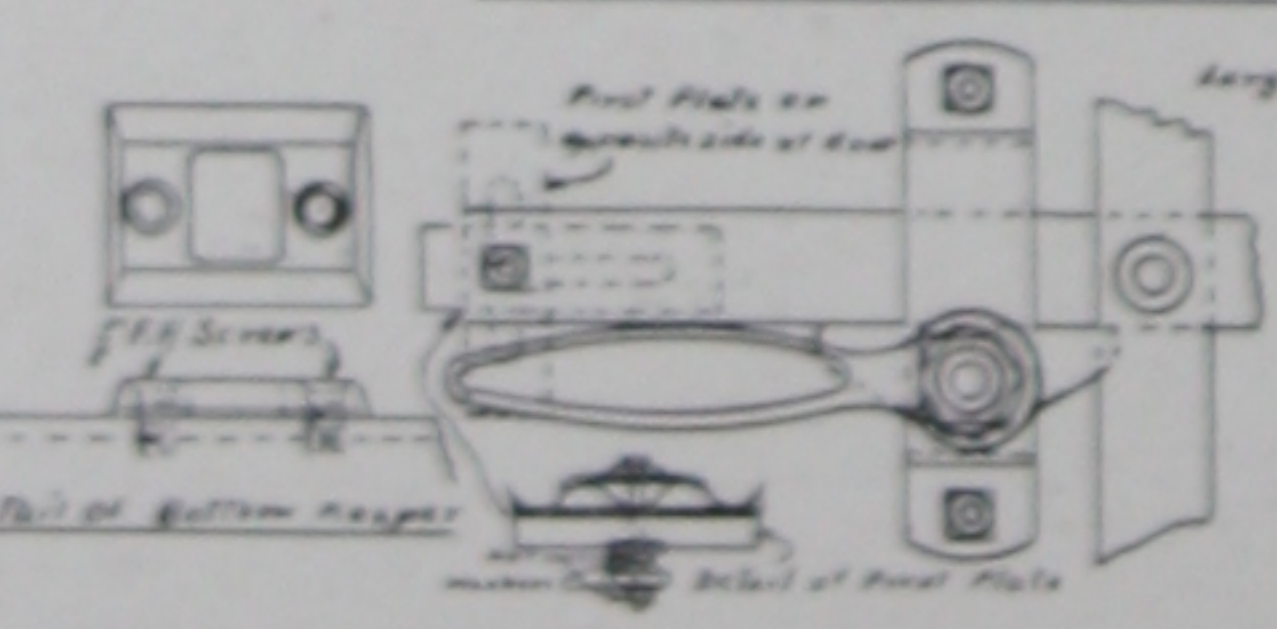
BACK ELEVATION OF DOOR



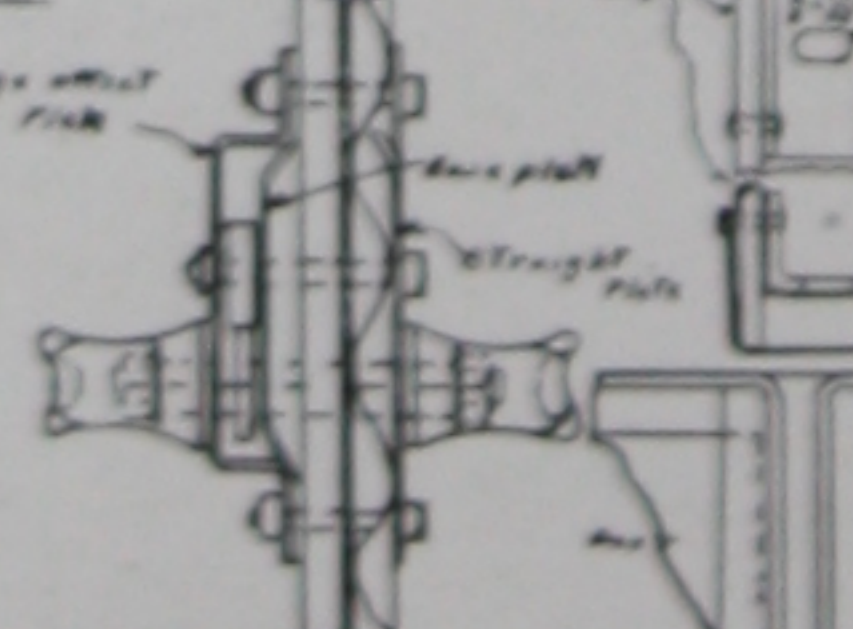
FRONT ELEVATION OF DOOR



Detail of Bottom Keeper



Detail of Pivot Plate

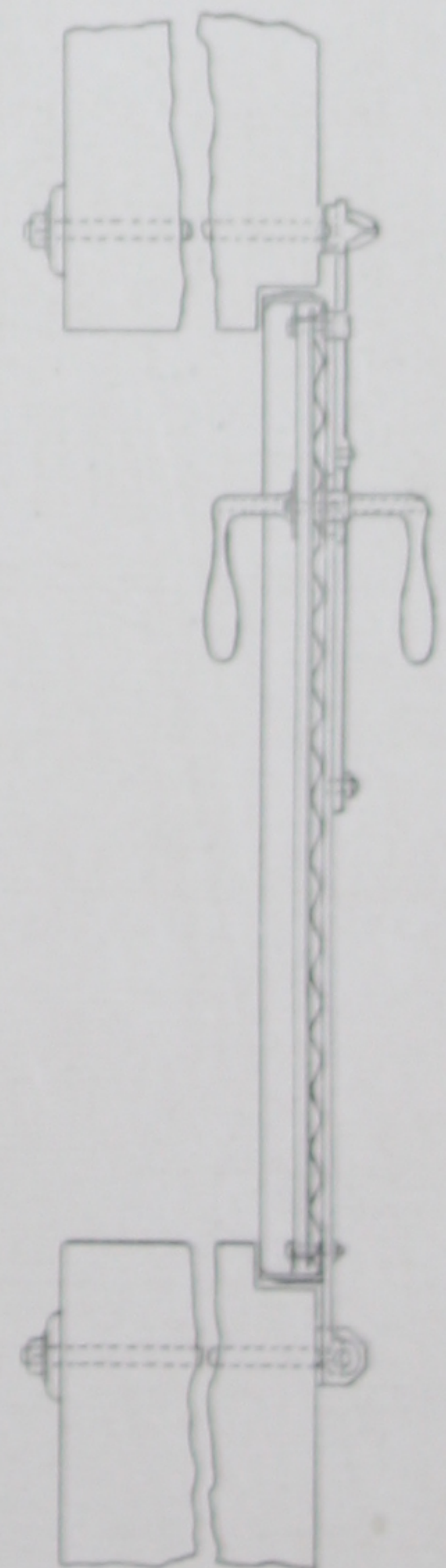
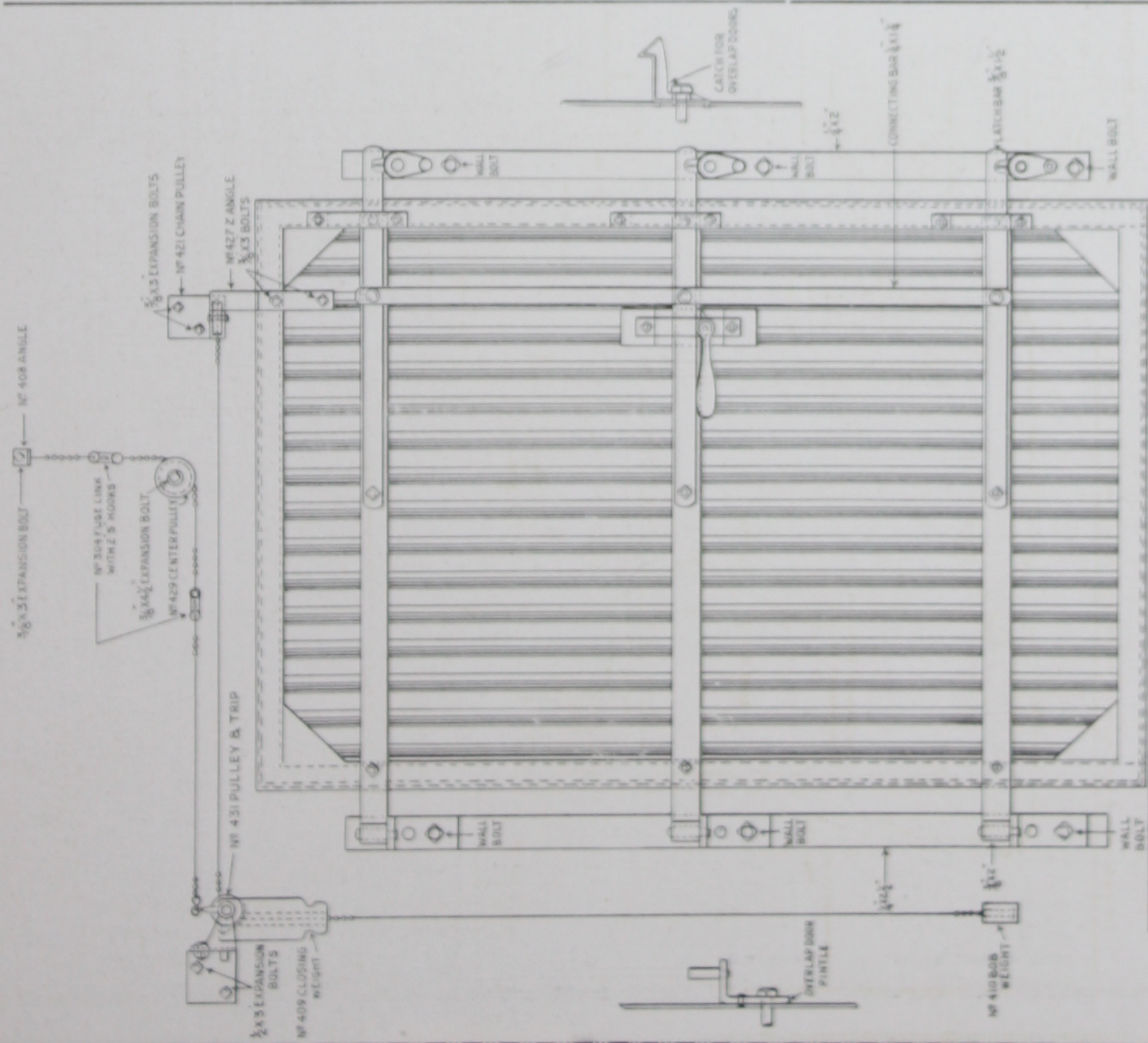


Detail of Bumper Shoe

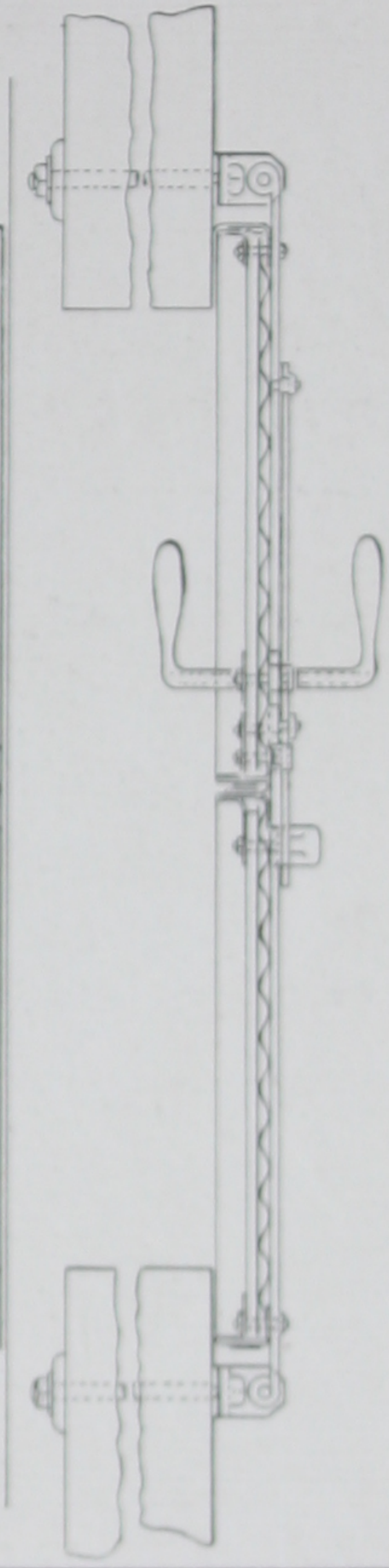
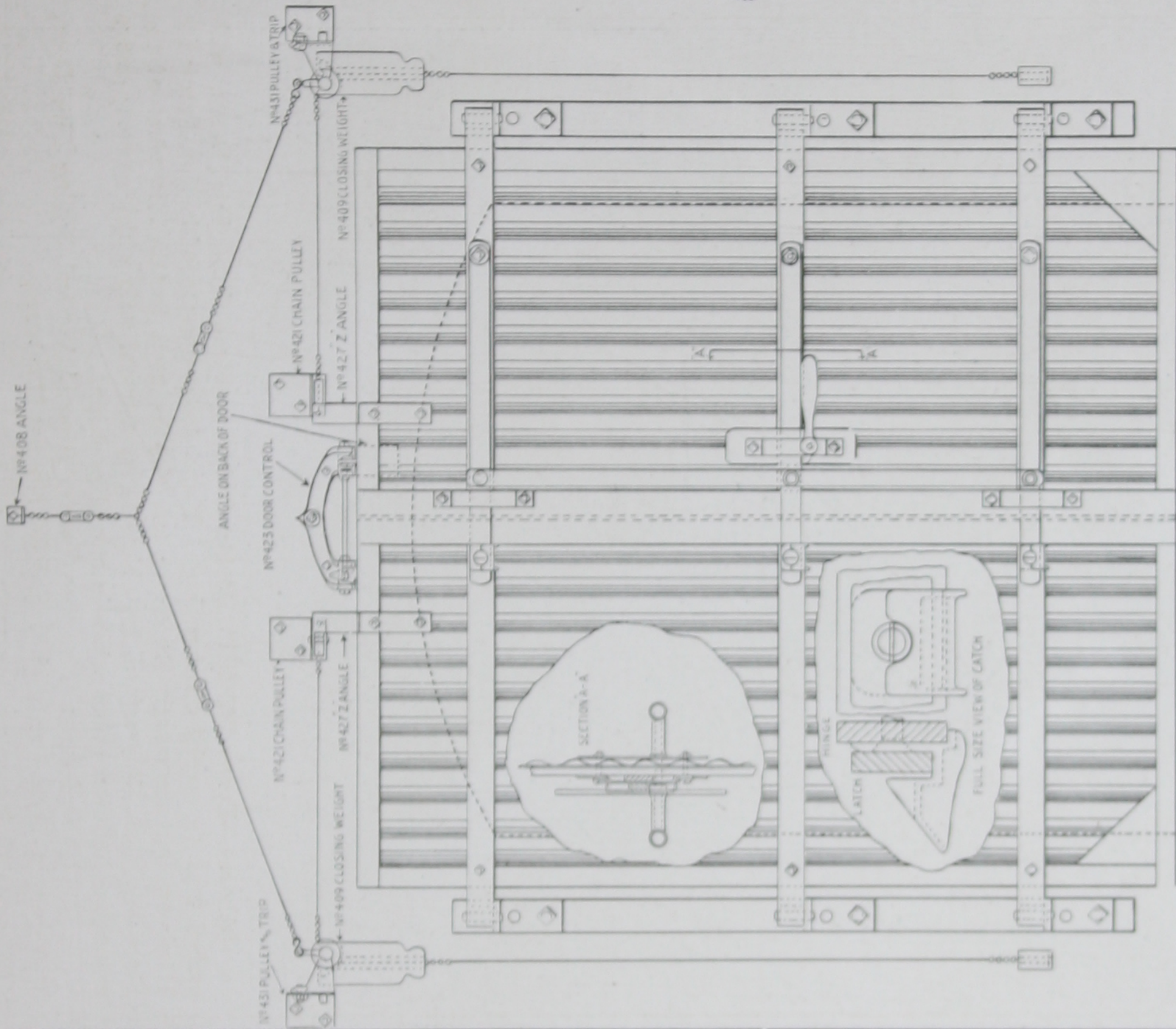
Detail Showing Application of Center Latch Bar When Number of Latch Bars Equals Number of Hinges

Erection Plan for Evans "Almetl" Double Swinging Overlap Type Fire Door—using M. & E. R-W No. 506 Hardware.



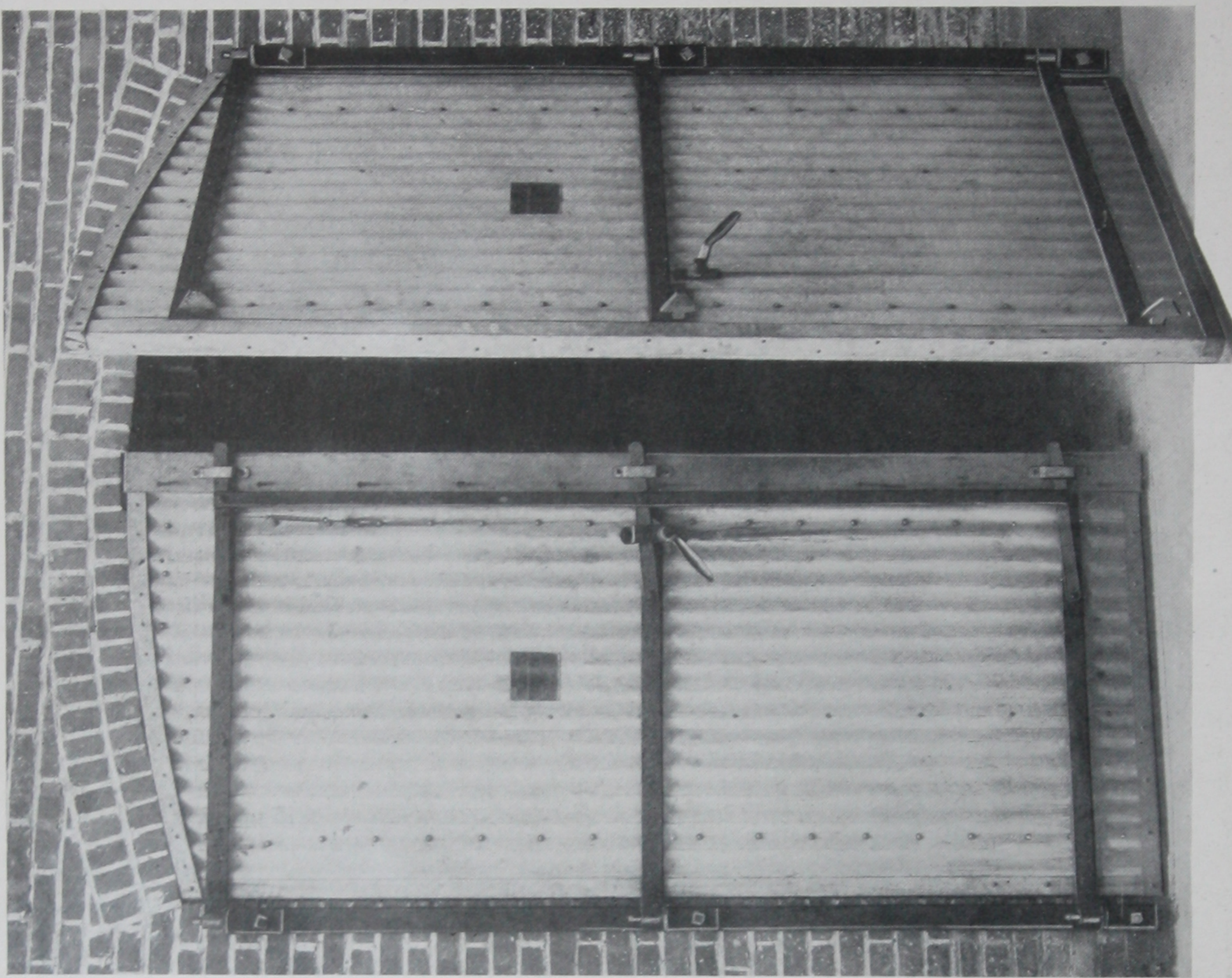


Erection Plan for Evans "Almet" Single Swinging Fire Door, Flush Type, rabbetted opening—using M. & E. A-P Hardware.



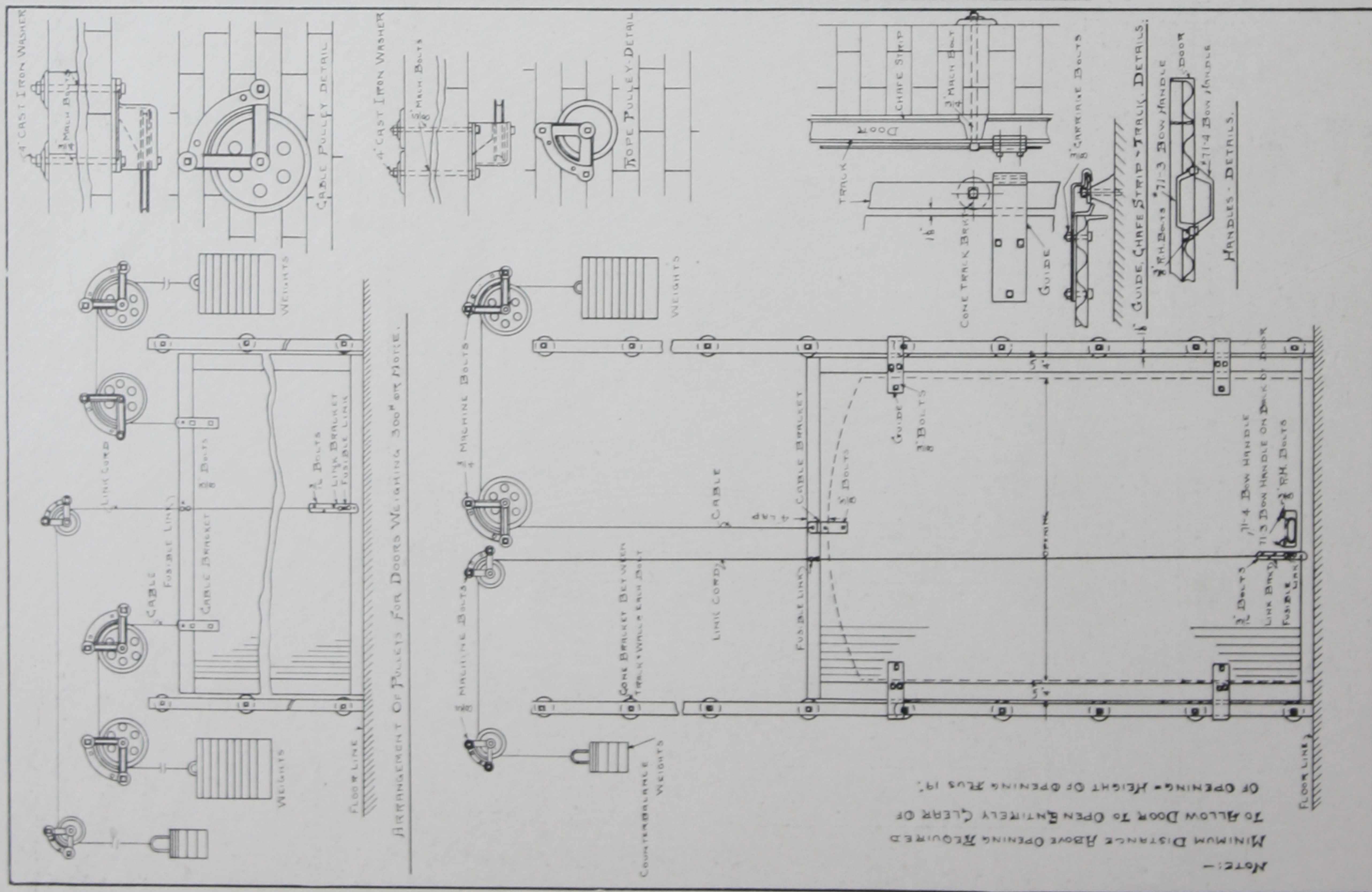
Erection Plan for Evans "Almet" Double Swinging Fire Door, Overlap Type—using M. & E. A-P Hardware.



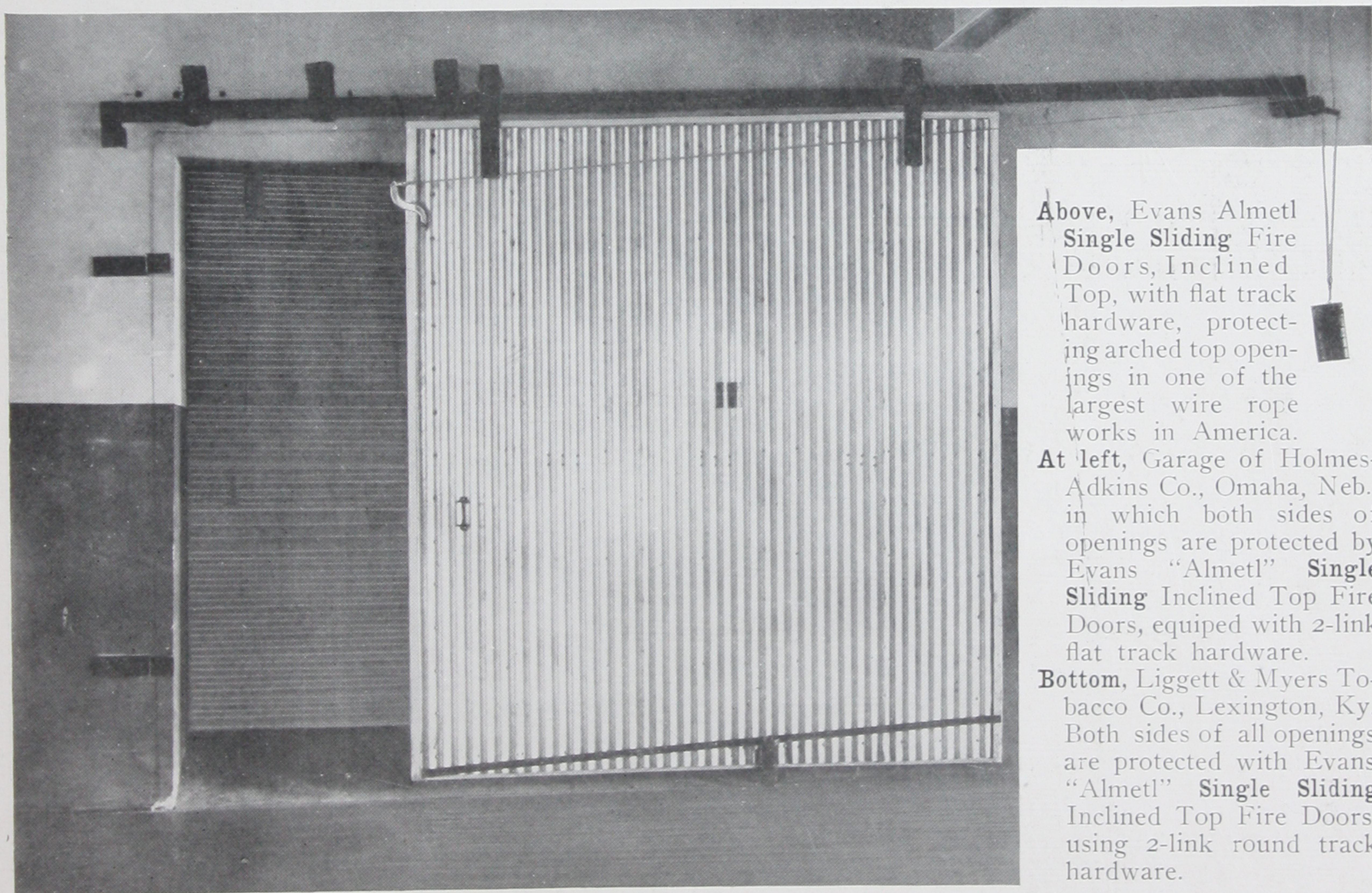
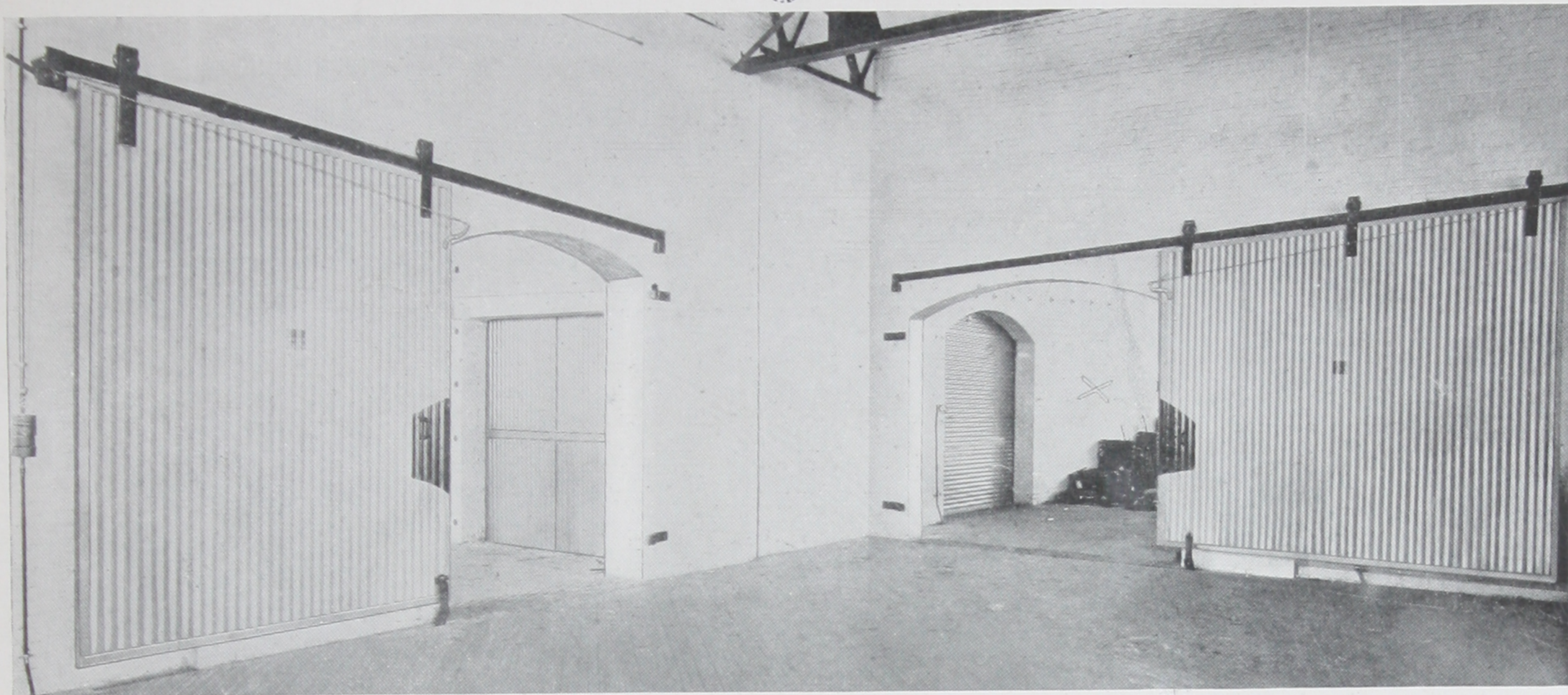


(Above)—Evans "Almetl" Double Swinging Flush Type Fire Doors, with arched tops (a special construction). These doors operate with Non-Automatic Hardware, but Automatic Hardware can also be used. Installed in plant of the Floyd-Wells Co., Royersford, Pa. Note heavy astragal strip which protects centre aperture between doors when in closed position.

(At Left)—Erection Plan for Evans "Almetl" Vertical Sliding Fire Door, arched top opening—using M. & E. R-W No. 203 Hardware.







Above, Evans Almetl Single Sliding Fire Doors, Inclined Top, with flat track hardware, protecting arched top openings in one of the largest wire rope works in America.

At left, Garage of Holmes-Adkins Co., Omaha, Neb., in which both sides of openings are protected by Evans "Almetl" Single Sliding Inclined Top Fire Doors, equipped with 2-link flat track hardware.

Bottom, Liggett & Myers Tobacco Co., Lexington, Ky. Both sides of all openings are protected with Evans "Almetl" Single Sliding Inclined Top Fire Doors, using 2-link round track hardware.





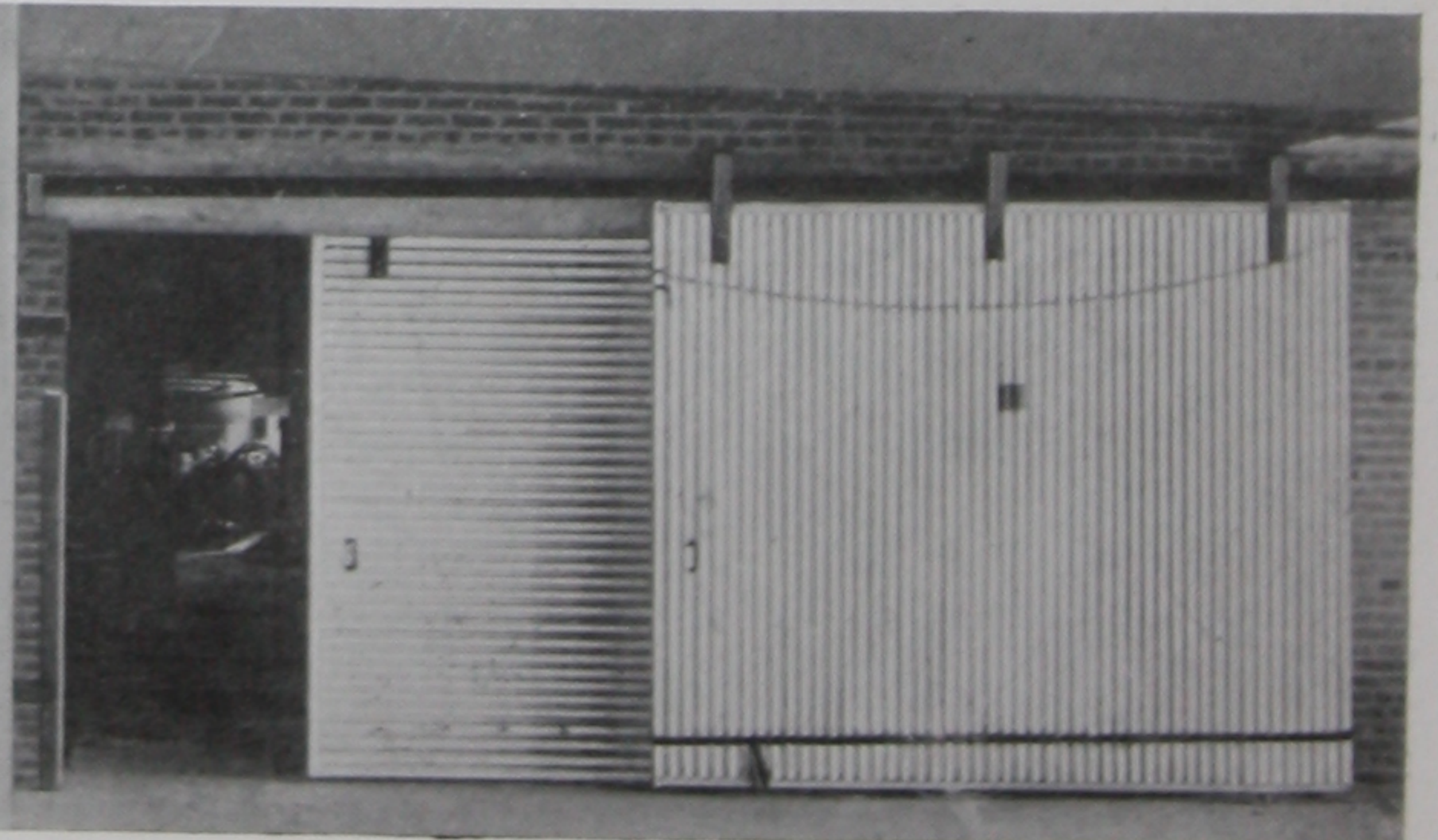
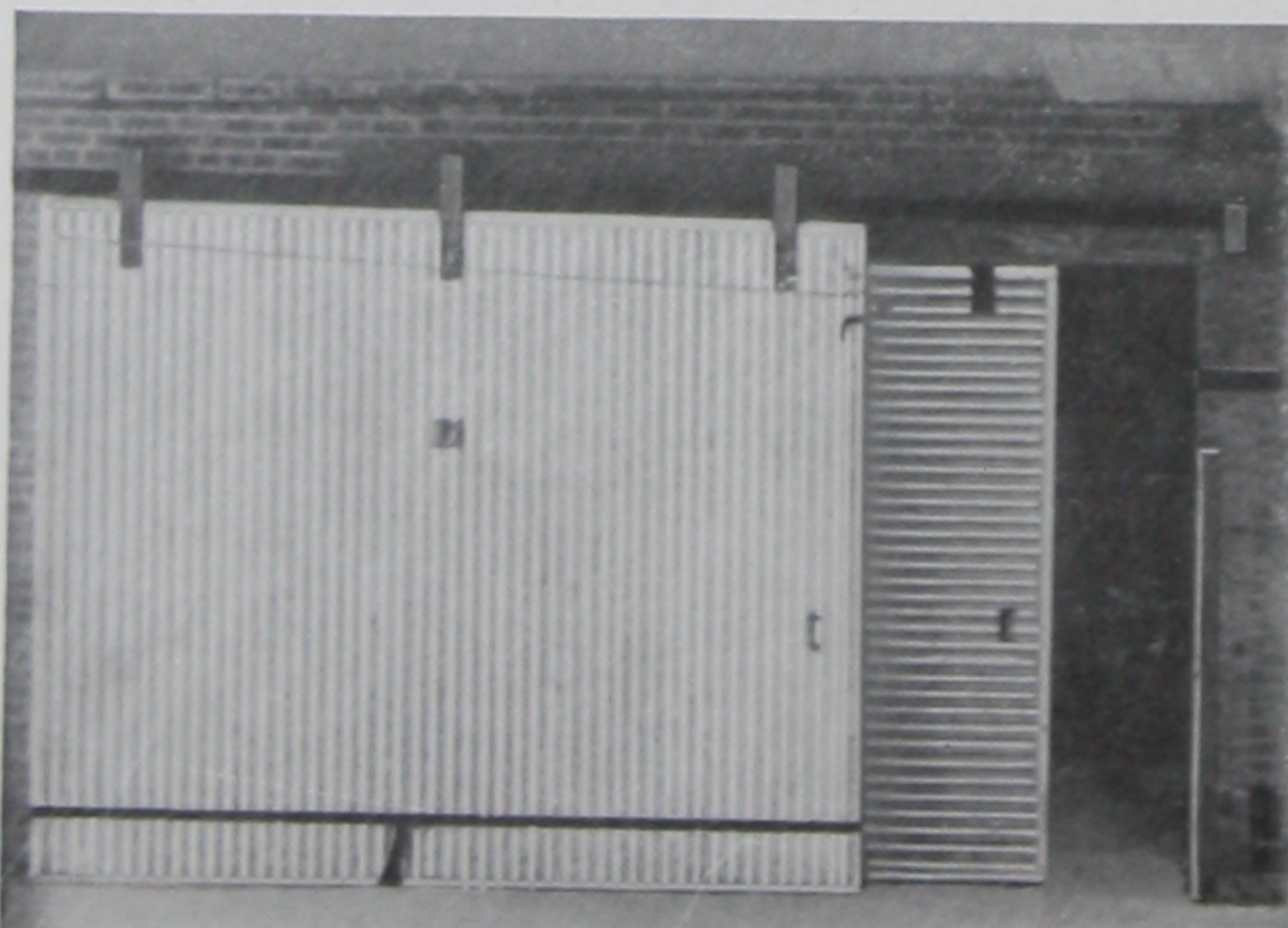
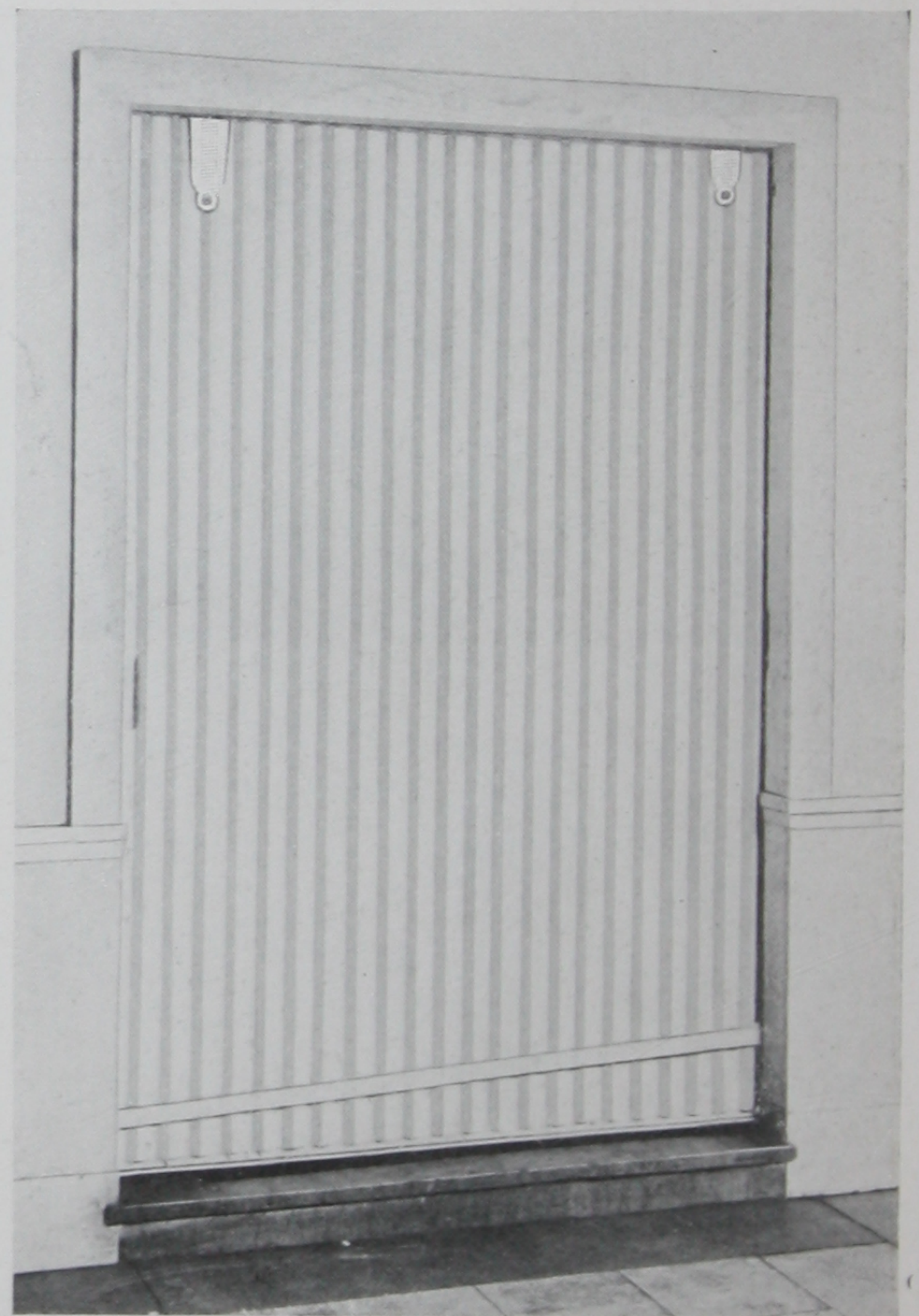
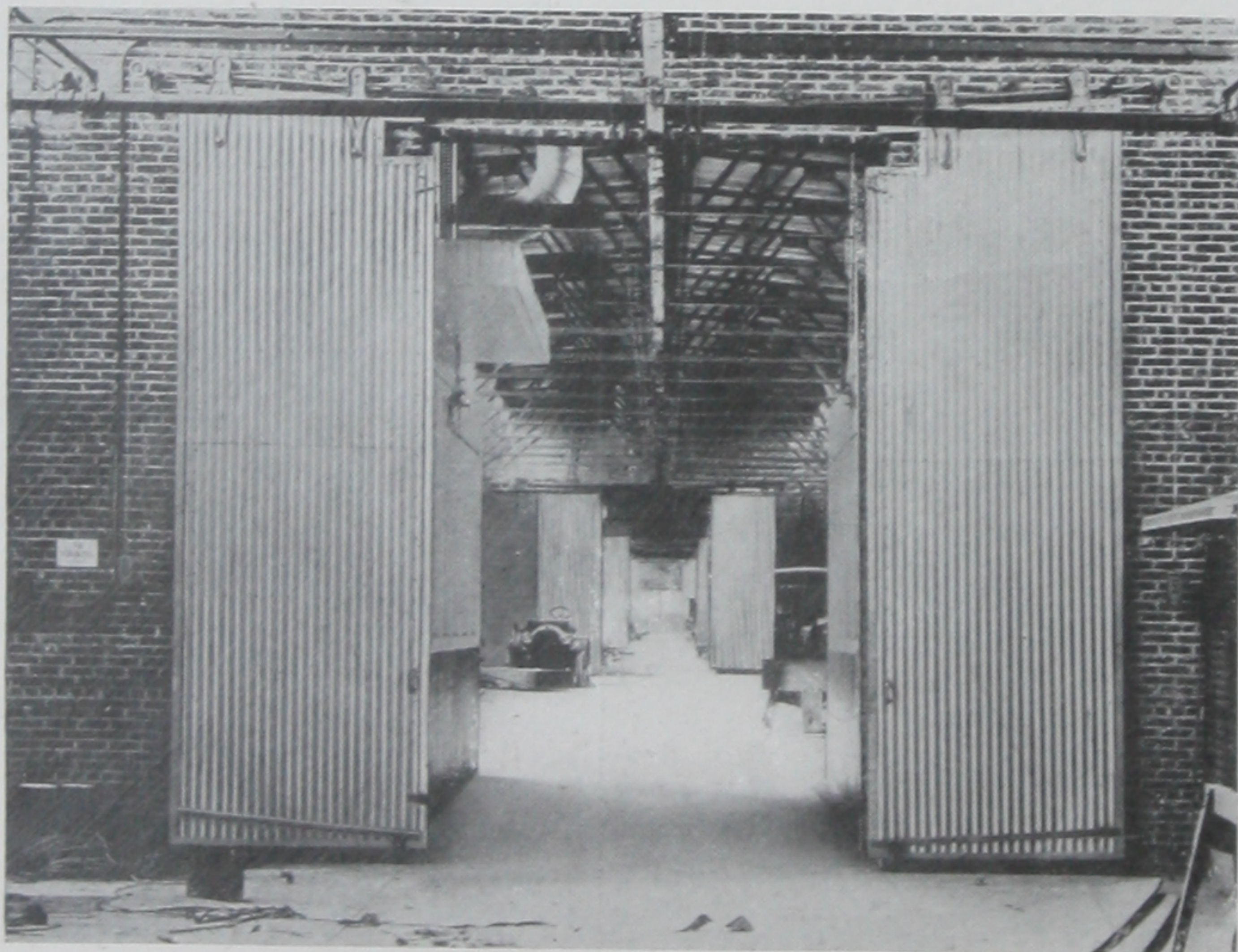


At top, Evans "Almetl" **Single Sliding** Fire Doors, Inclined Top, with flat track hardware, in Warehouse of Detroit United Railway Co., Detroit, Mich.

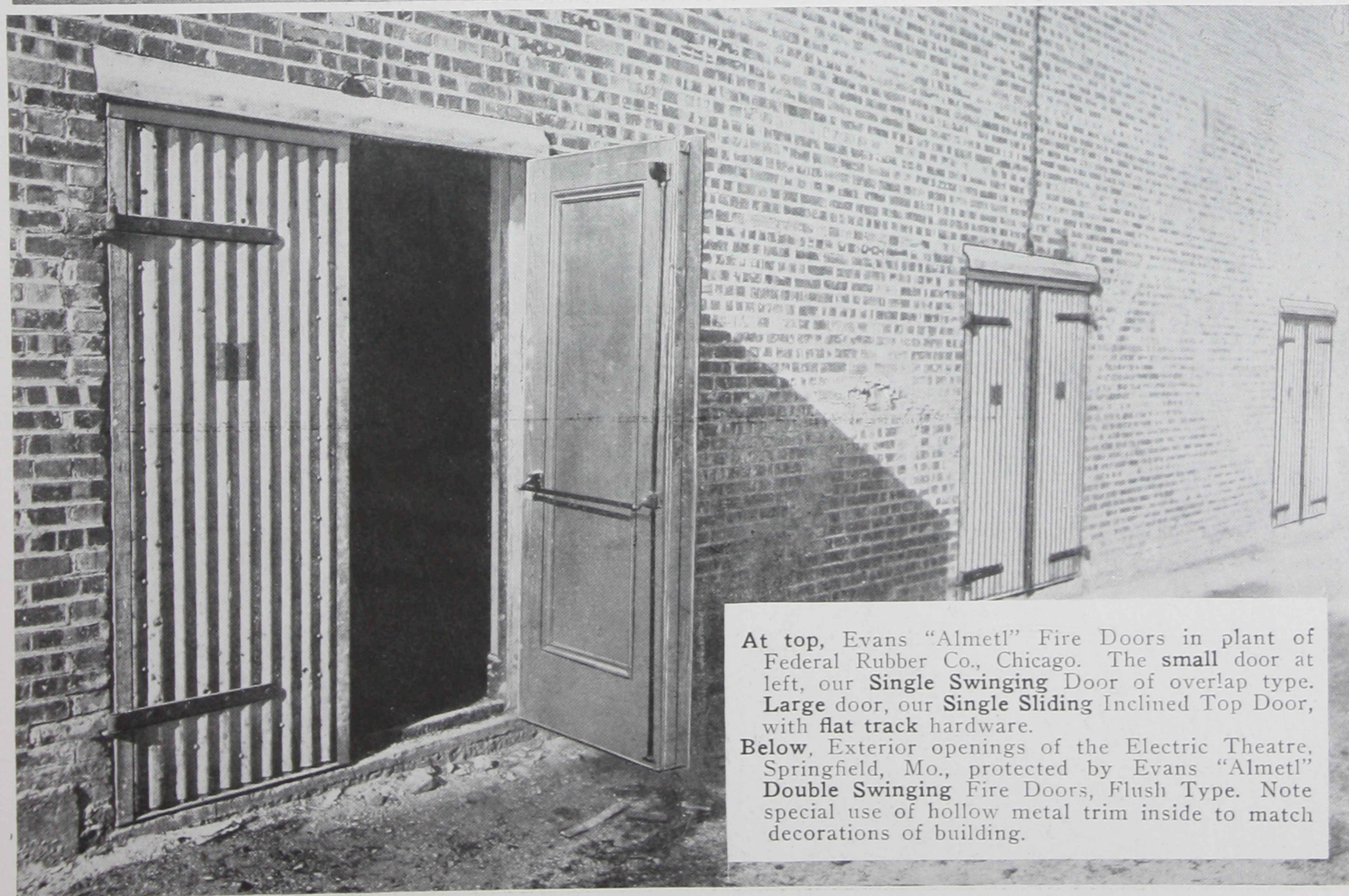
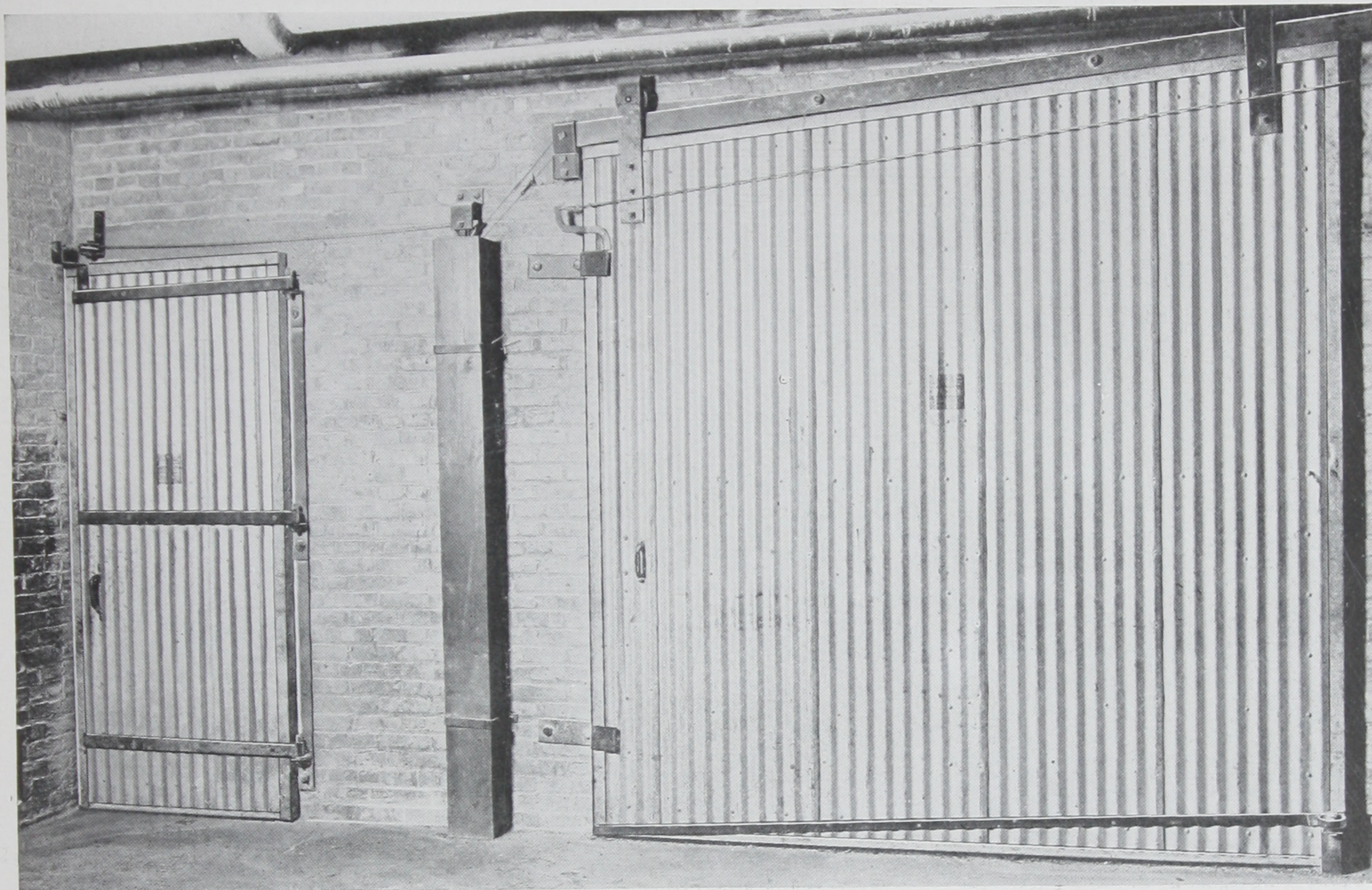
Left center, Fitzgibbons & Crisp's Wagon Works, Trenton, N. J., showing series of Evans "Almetl" **Double Sliding** Fire Doors, Inclined Top, with round track hardware. Note recess at top of doors for overhead track.

Right center, Wells Fargo Express Company office building, New York City. Evans "Almetl" **Single Sliding** Fire Doors, painted white to match the marble walls and floor; arranged to slide into the wall.

Bottom of page, Pennsylvania Railroad Company's in and outbound freight station, Philadelphia. Evans "Almetl" **Single Sliding** Fire Doors, Inclined Top, with flat track hardware, protect both sides of openings.







At top, Evans "Almetl" Fire Doors in plant of Federal Rubber Co., Chicago. The small door at left, our **Single Swinging Door** of overlap type. Large door, our **Single Sliding Inclined Top Door**, with flat track hardware.

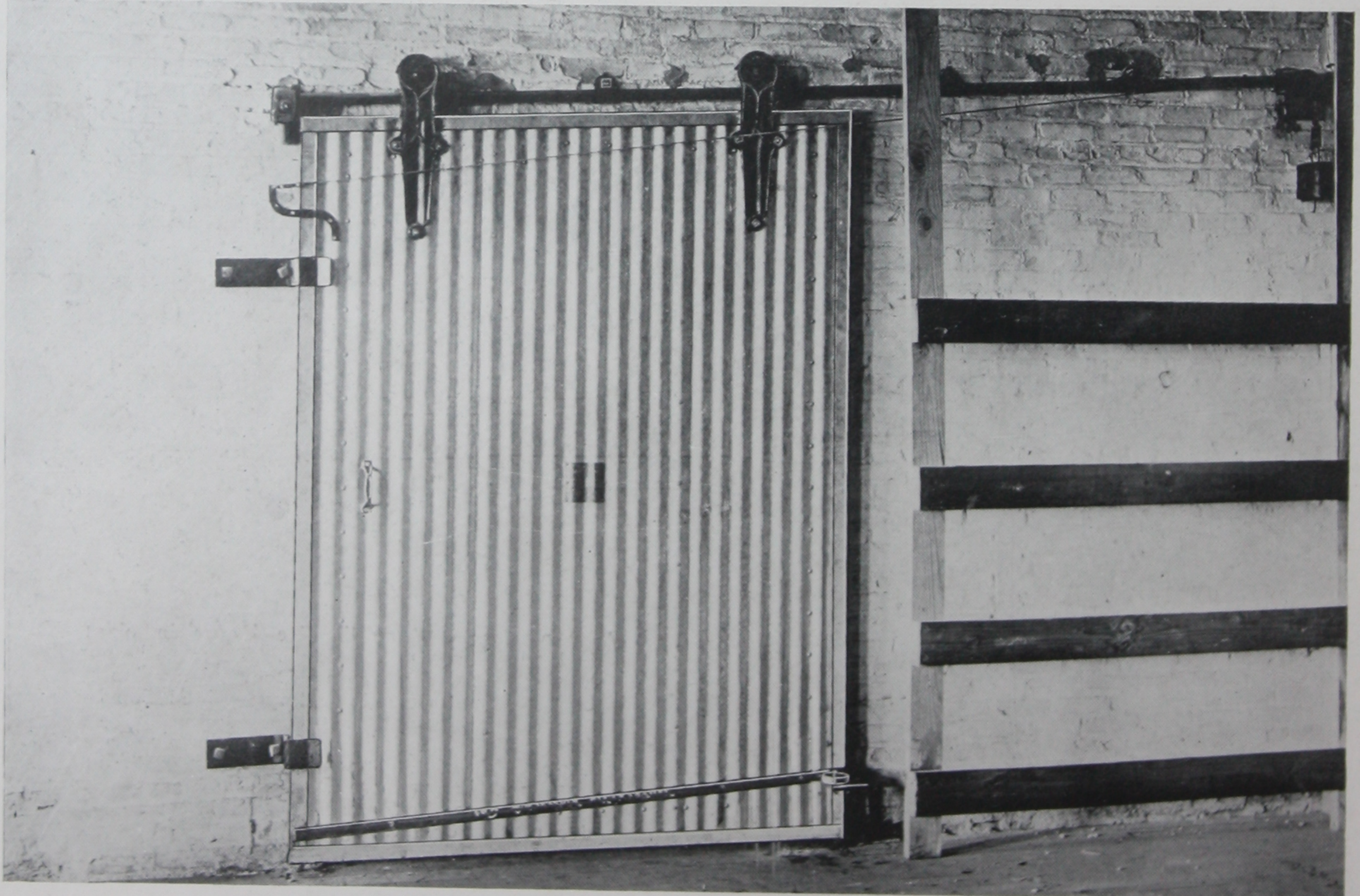
Below, Exterior openings of the Electric Theatre, Springfield, Mo., protected by Evans "Almetl" **Double Swinging Fire Doors, Flush Type**. Note special use of hollow metal trim inside to match decorations of building.



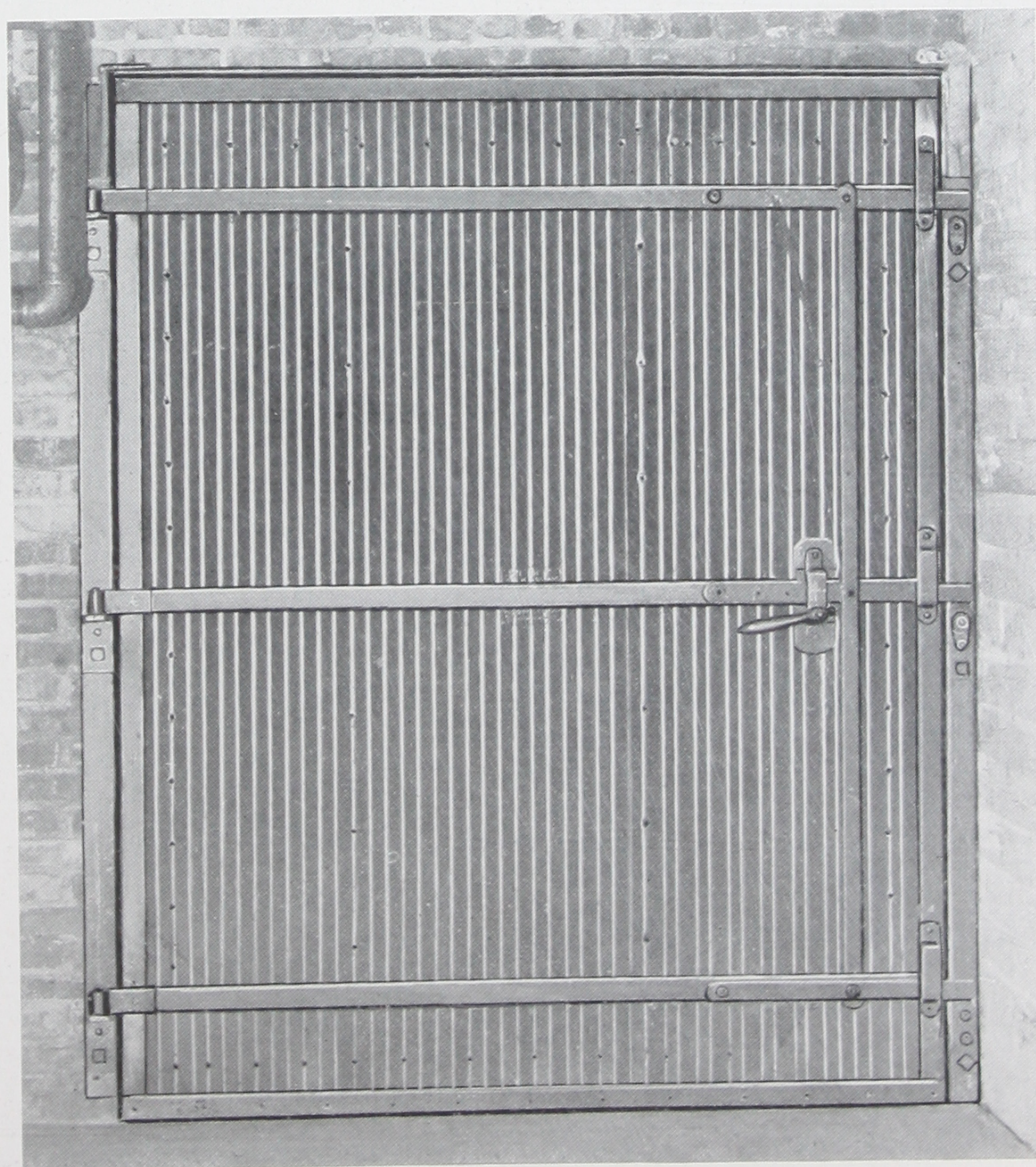


At left, Evans "Almetl" Single Swinging Fire Doors, Overlap Type, installed for National Cold Storage Warehouse Co., Brooklyn, N. Y. Non-automatic hardware.

Below, Evans "Almetl" Single Sliding Fire Door, Inclined Top, round track hardware, installed in Kroehler Mfg. Co. building, Binghamton, N. Y. Frame partition protects the door, which slides behind it in opening.





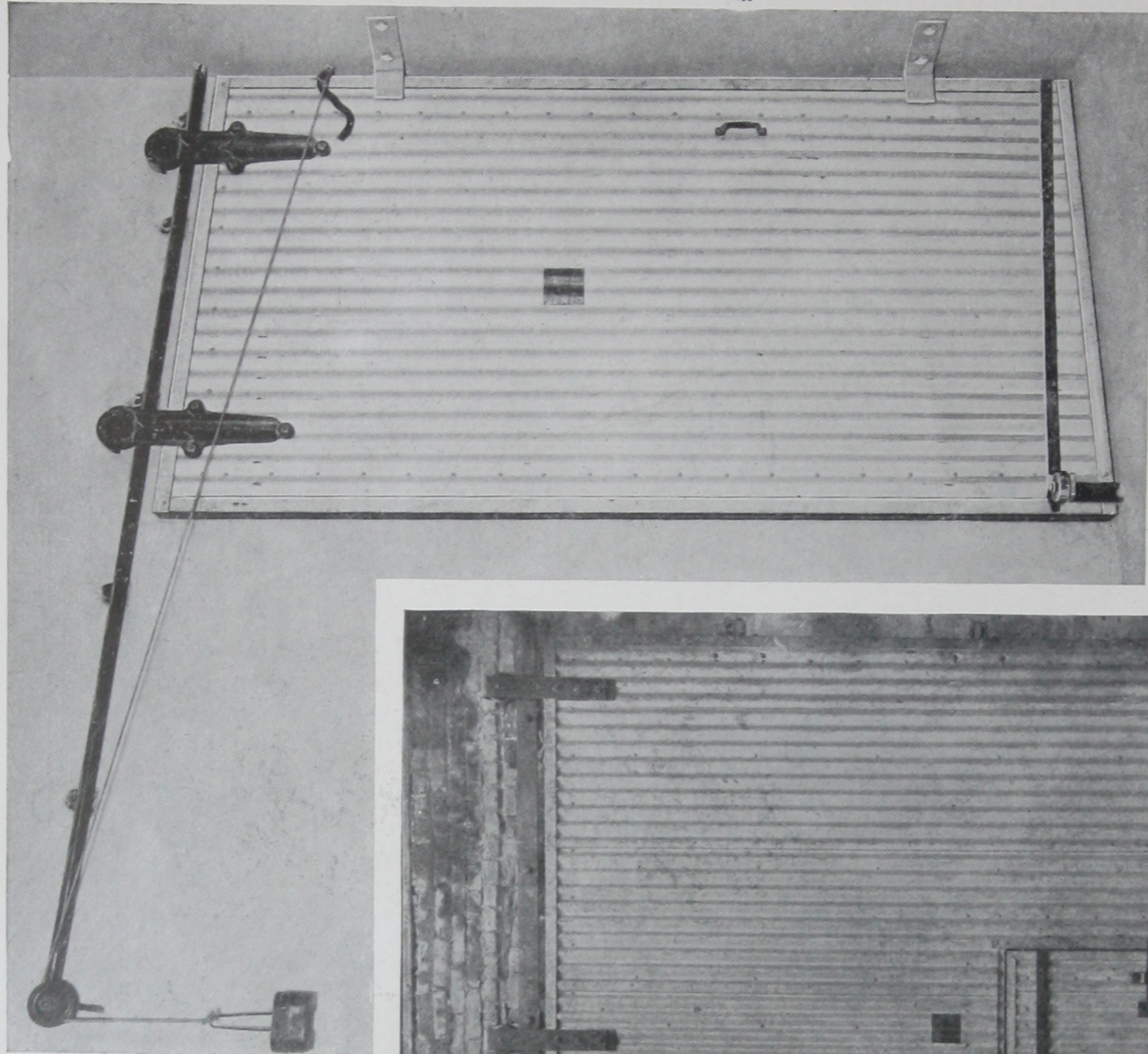


At top, an extra hazardous risk—the woolen rag factory of S. Rainitser Co., Inc. New York. Evans "Almetl" **Single Sliding** Inclined Fire Doors, with flat track hardware.

Center, Evans "Almetl" **Single Swinging** Fire Door, Flush Type, in Cushman Garage, New York. Note door check and patent lock.

Bottom, **Single Swinging** Evans "Almetl" Fire Door, Flush Type, in rabbetted angle frame, with non-automatic hardware, as used by National Cold Storage Warehouse Co., Brooklyn, N. Y.

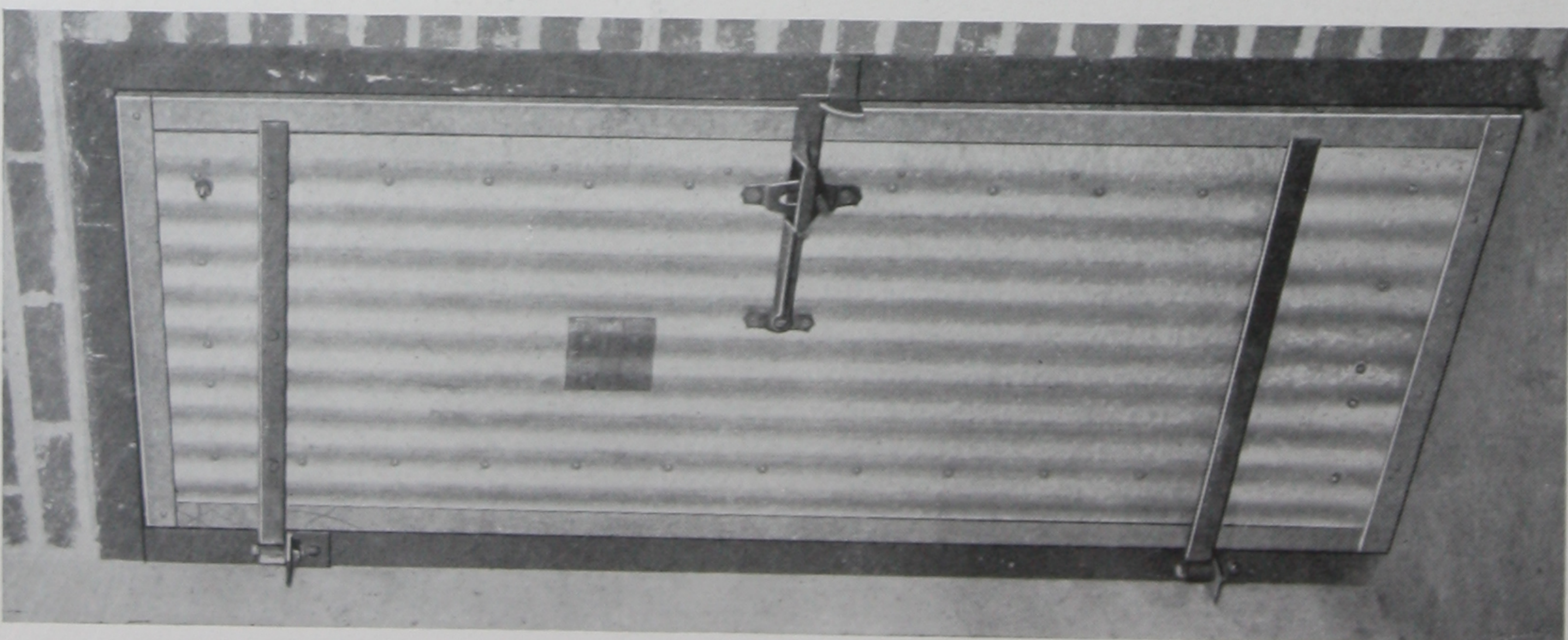
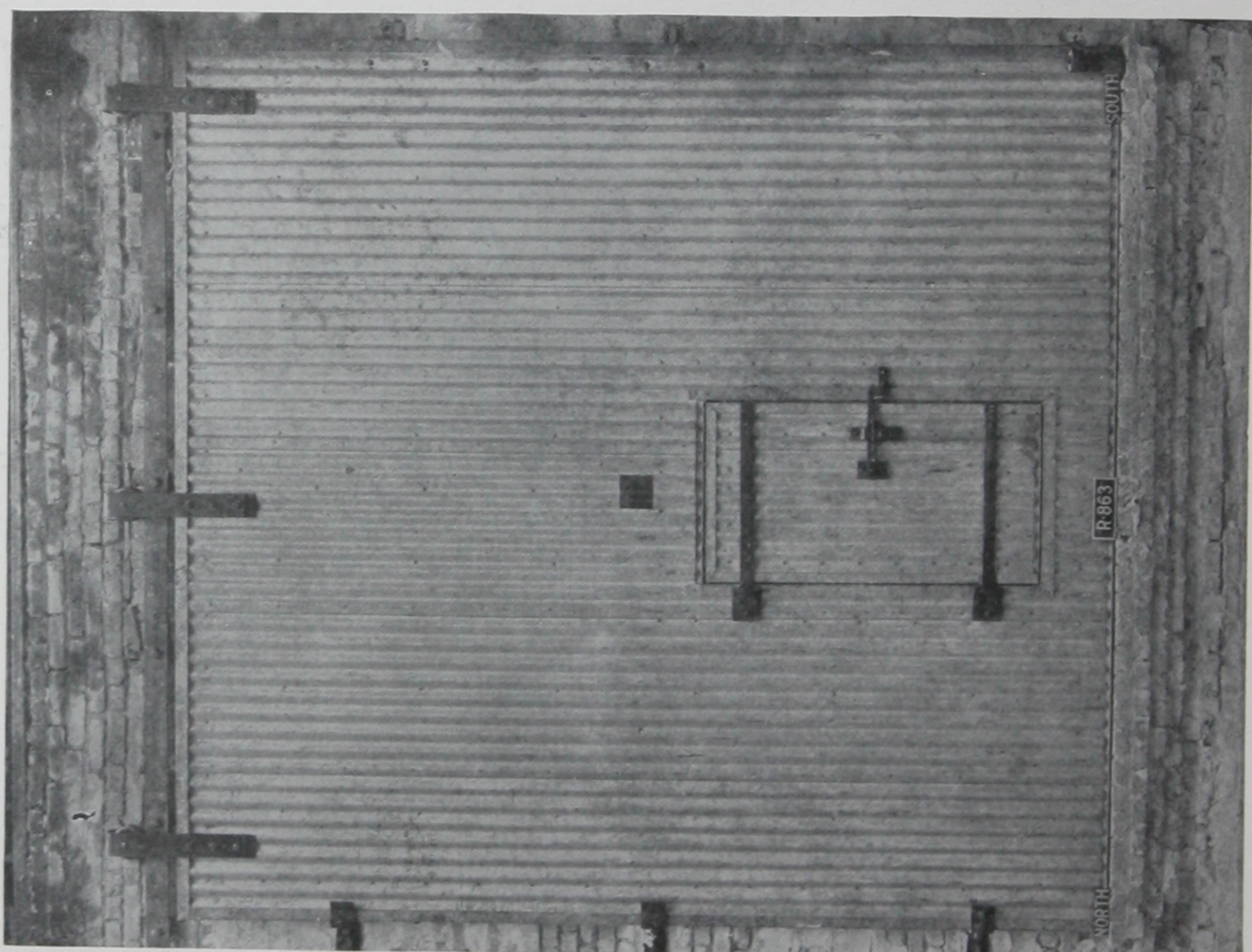




Evans "Almetl" Single Sliding Door, with Wicket Gate, as set up and ready for testing at Underwriters' Laboratories. (Test was made for a 10'x12' opening, and was very successful.)

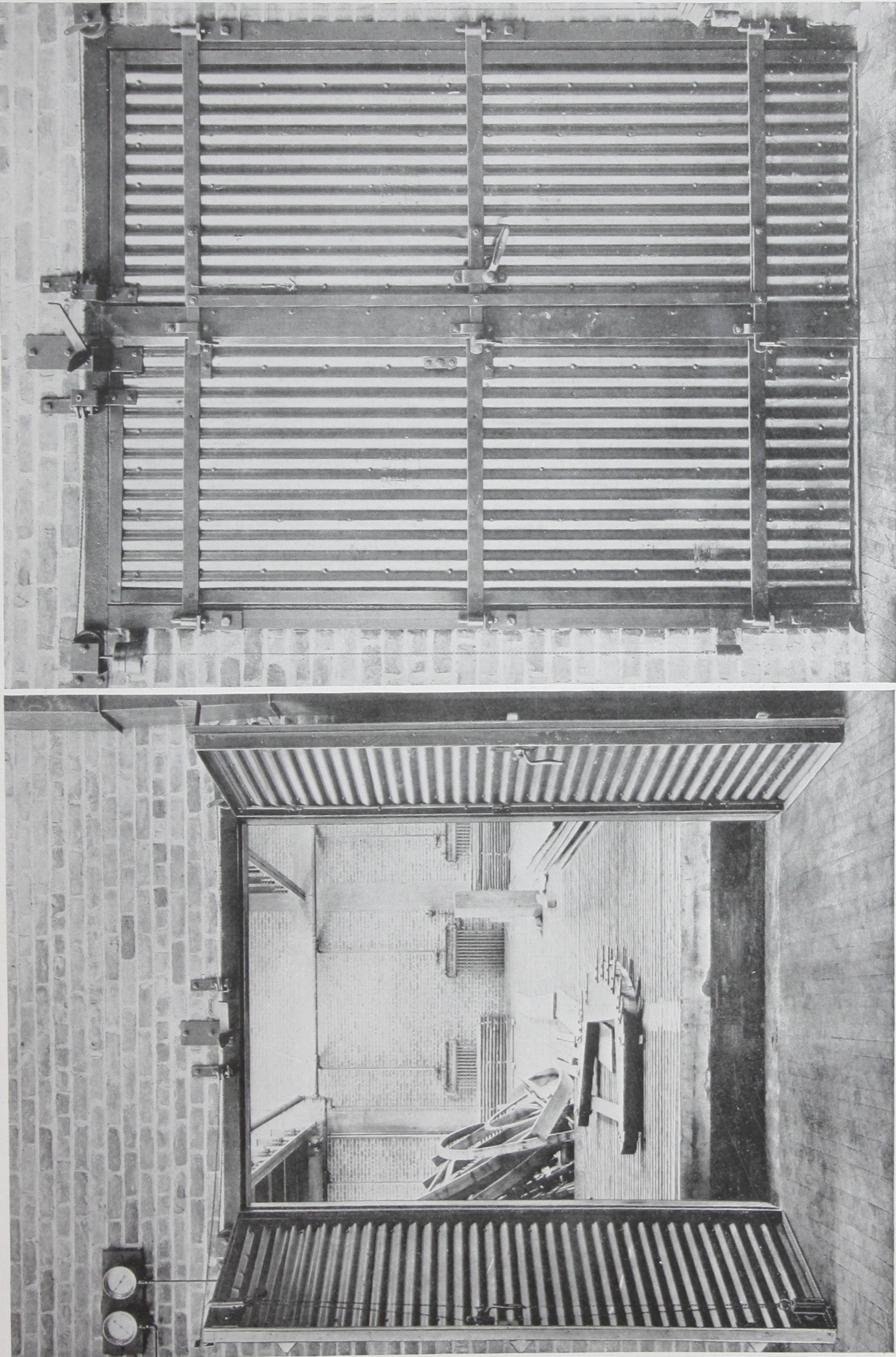
Evans "Almetl" Single Sliding Inclined Top Fire Door in Patterson Transfer Co. Warehouse, Memphis, Tenn. Round track hardware.

Note use of special bumpers to protect side wall, closeness of which had allowed no clearance.



Evans "Almetl" Single Swinging Fire Door, Flush Type (Angle Iron Frame), in warehouse of N. D. Nelson, Memphis, Tenn. Non-Automatic hardware used.



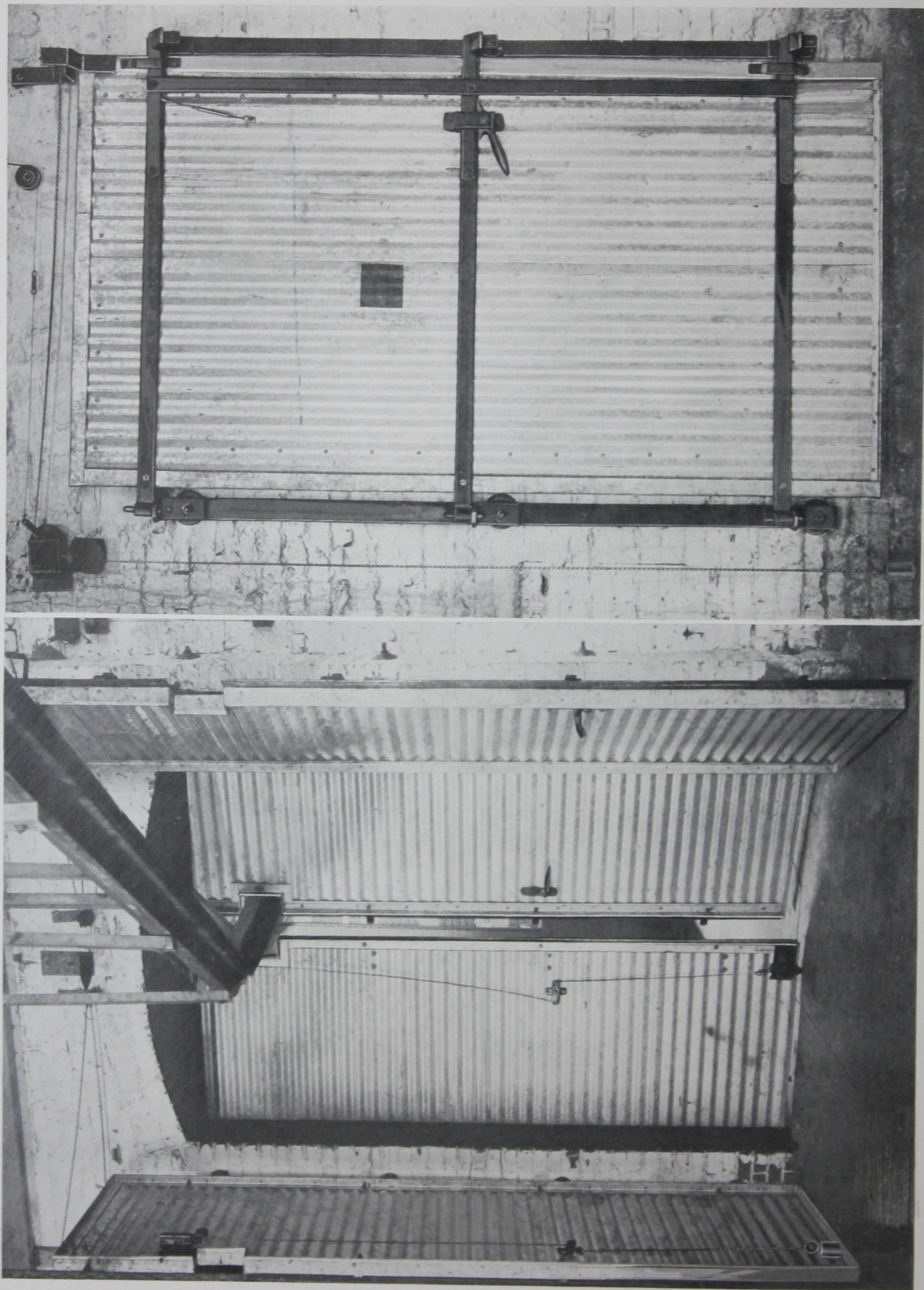


Evans "Almetl" Fire Doors, Double Swinging, Flush Type, set into a rabbetted angle iron frame. Both views are of doors in the carpenter shop of the Detroit United Railway Co., Highland Park, Mich.

Note in the illustration at left the astragal strip at edge of right-hand door, then in illustration at right how astragal overlaps, when doors are closed.

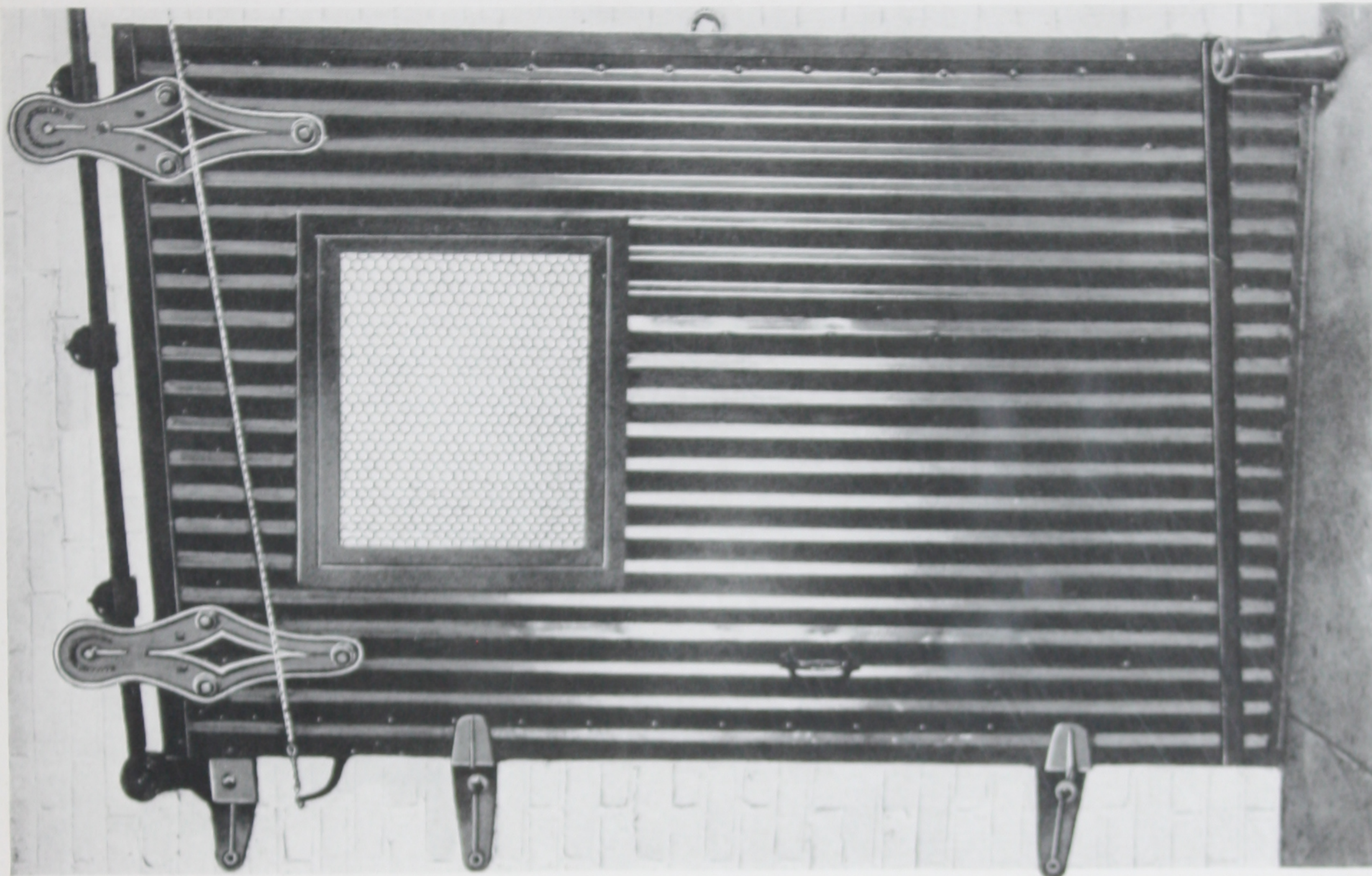
*NOTE.—Evans "Almetl" Doors are rigid in plane—and do not bend transversely and hit wall in closing.*





Two views in the plant of W. G. Clore Mfg. Co., Washington, Ind. At right, Evans "Almetl" Single Swinging Fire Door. At left, Evans "Almetl" Double Swinging Fire Doors, Overlap Type, protecting both sides of arched top opening. Note how doors are recessed to provide for overhead trolley track.  
NOTE.—Evans "Almetl" Doors are rigid in plane—and do not bend transversely and hit wall in closing.

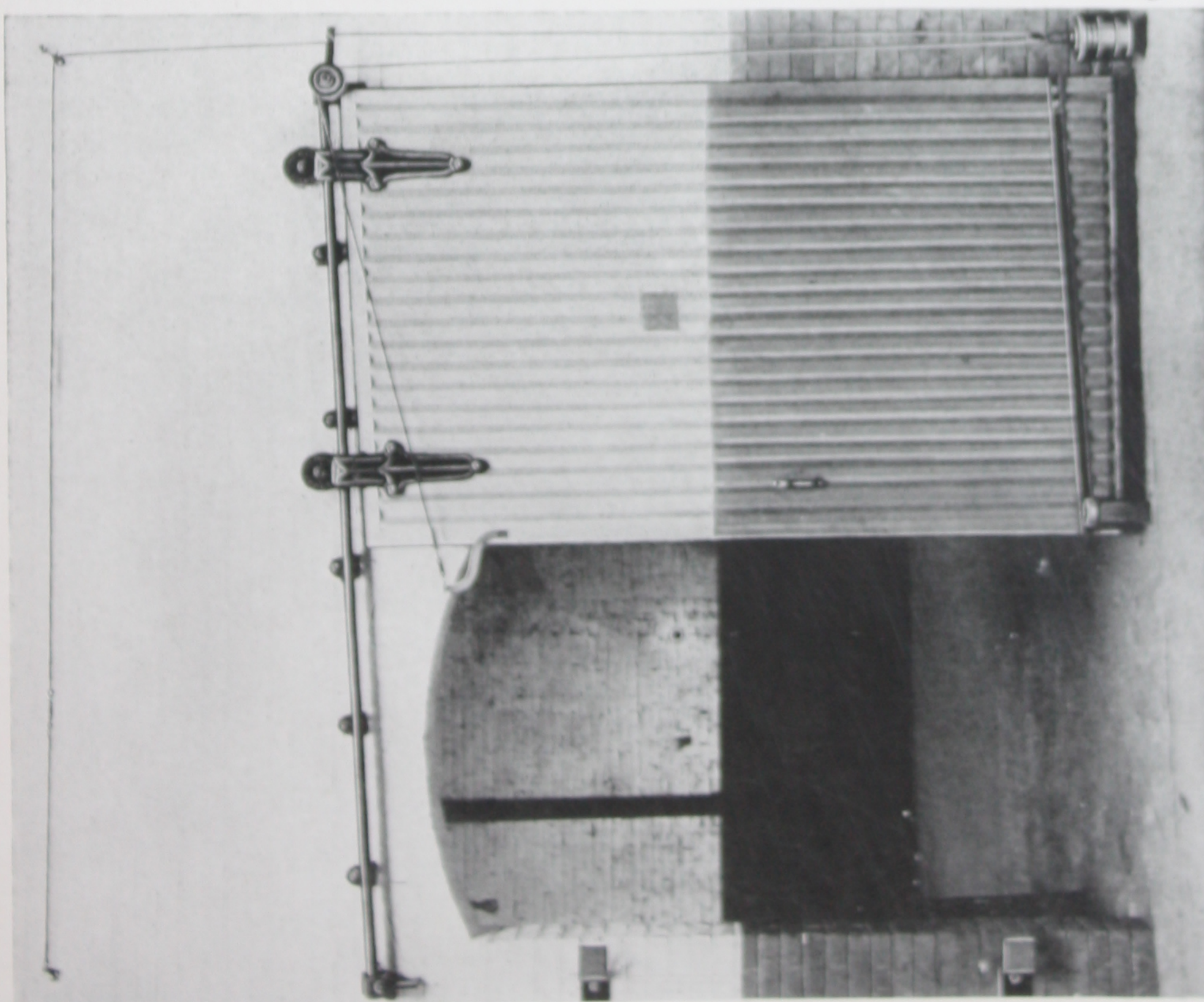




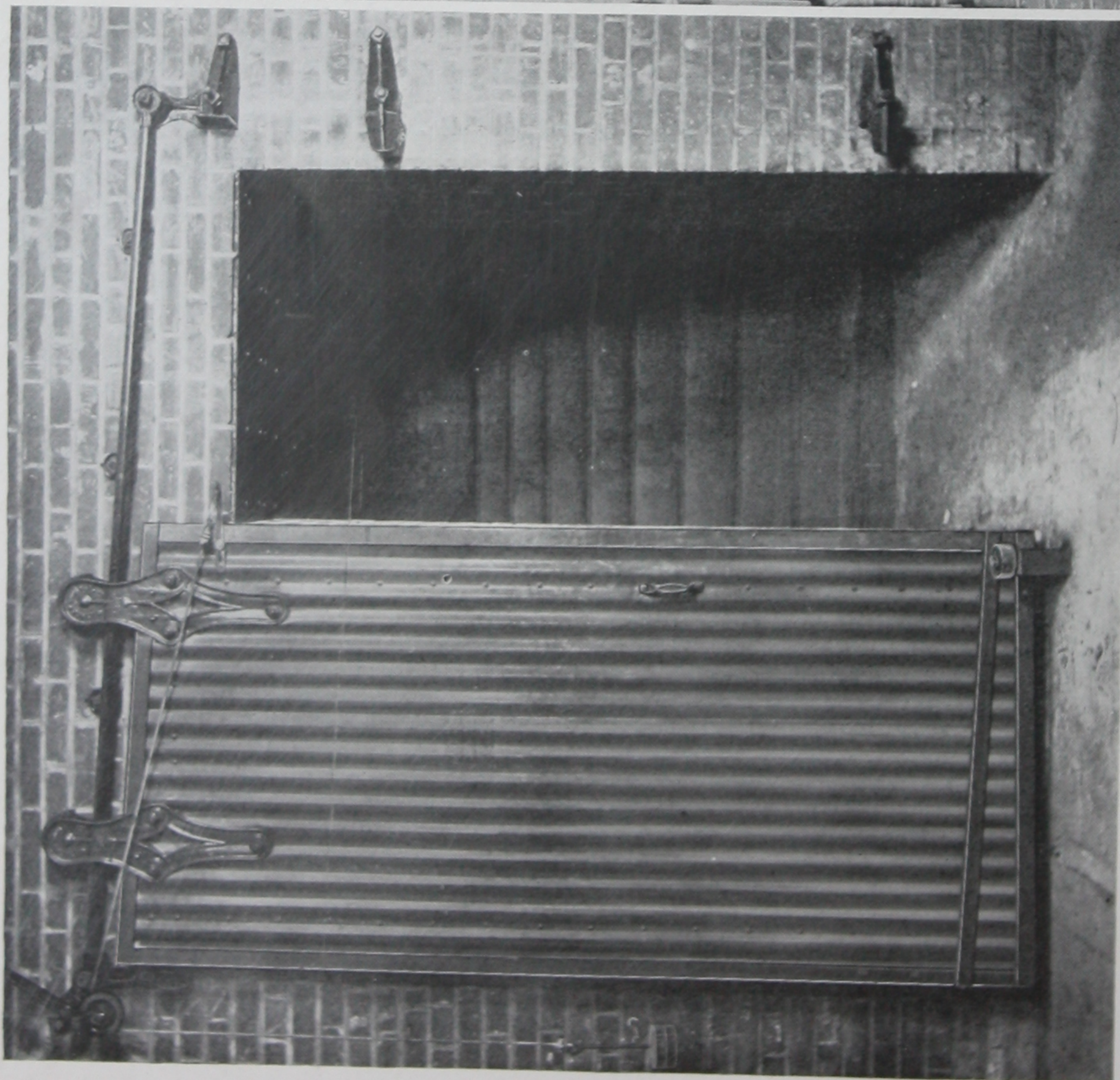
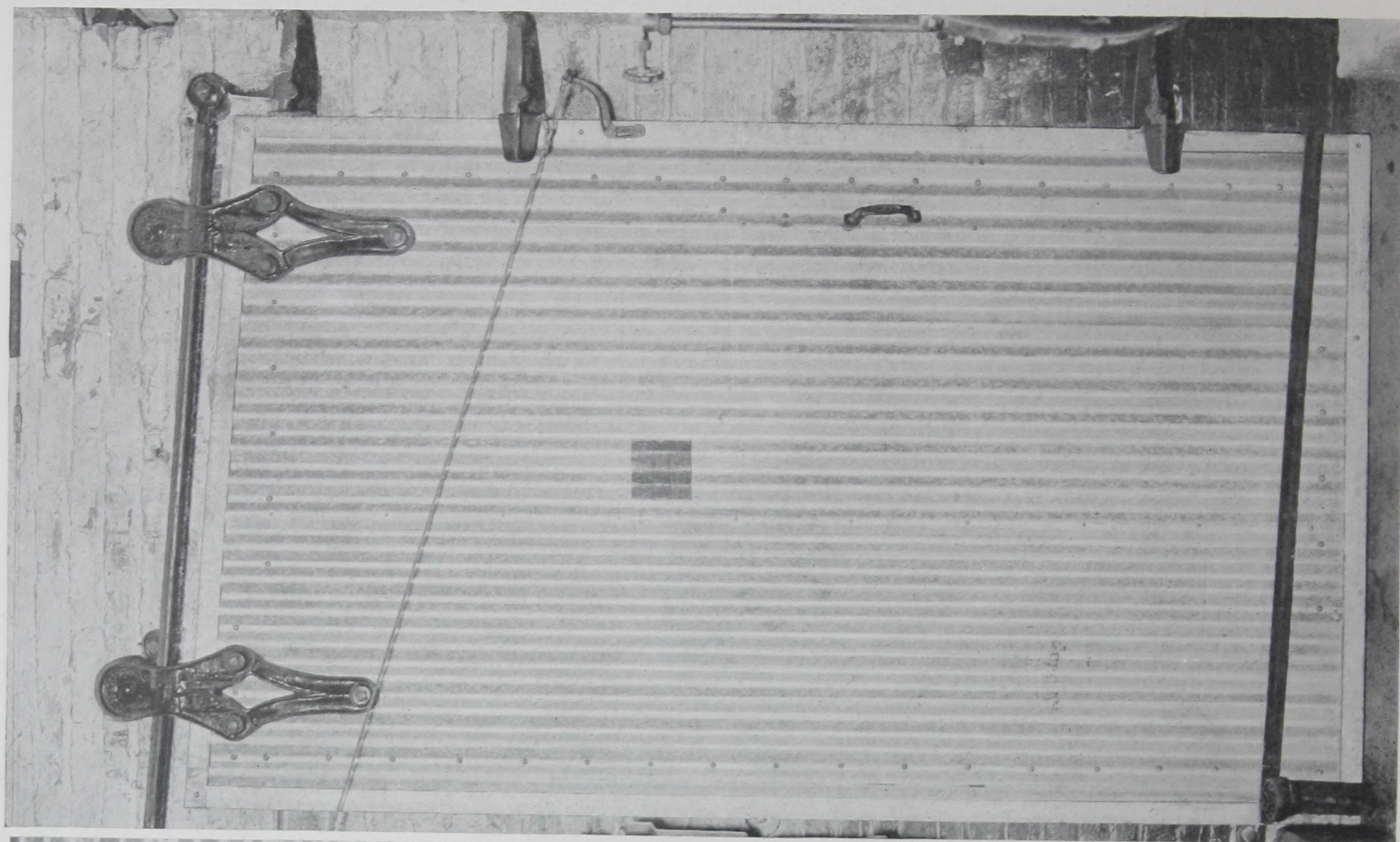
Above, Evans "Almett" Single Sliding Fire Door, inclined top, in our Philadelphia plant. Round track, 2-link hardware.

At right, Evans "Almett" Single Sliding Fire Door, with polished, wired glass panel. (Now approved and labeled.) Round track hardware.

NOTE.—Evans "Almett" Doors are rigid in plane, and indestructible in use.





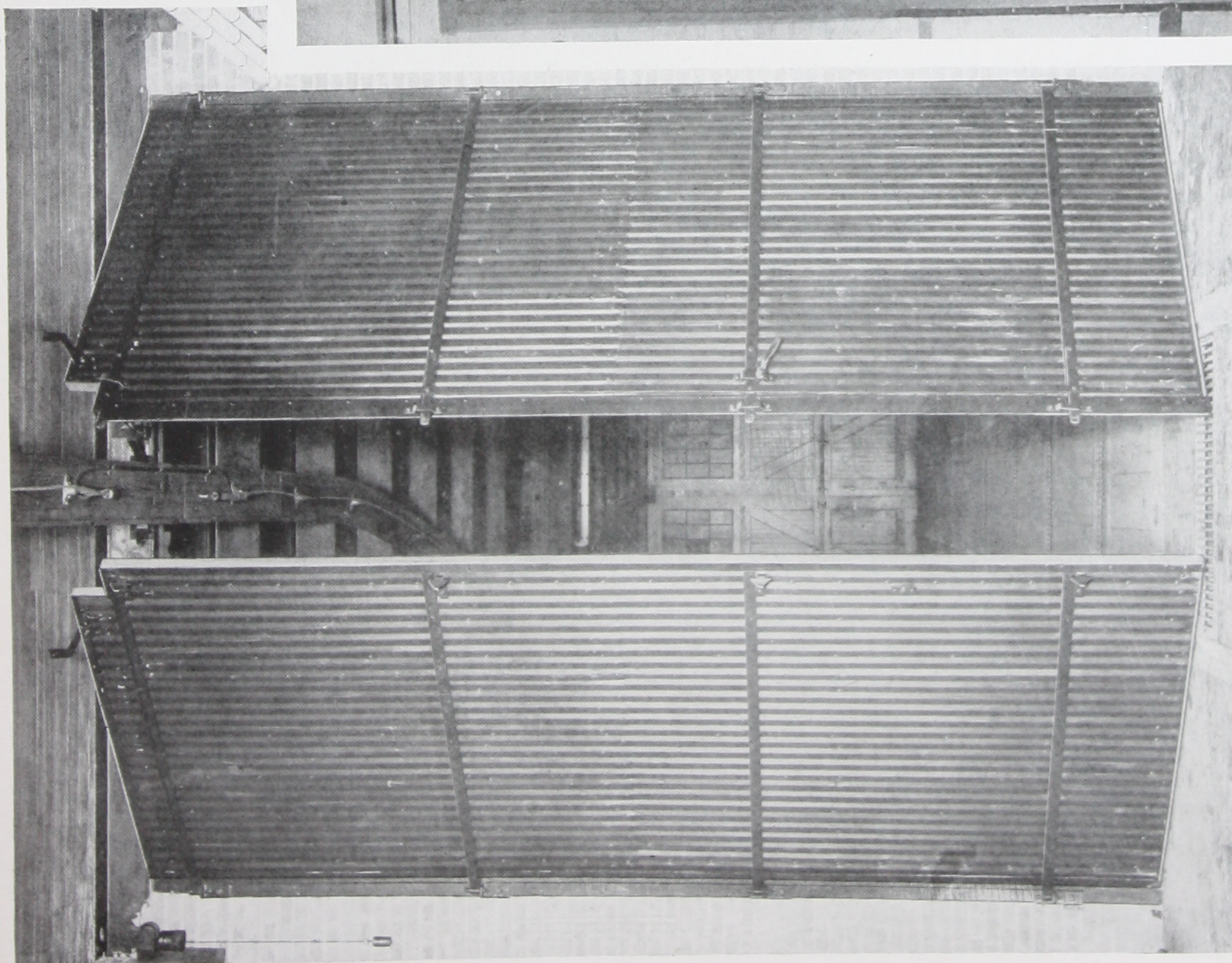


Above, Evans "Almetl" Single Sliding Fire Door—Inclined top; round track hardware—in Scudder-Gale Grocery Co., building, St. Louis, Mo.

At right, same type Evans "Almetl" Fire Door in plant of Dryden Rubber Co., Chicago.

NOTE.—Evans "Almetl" Doors are rigid in plane, and indestructible in use.

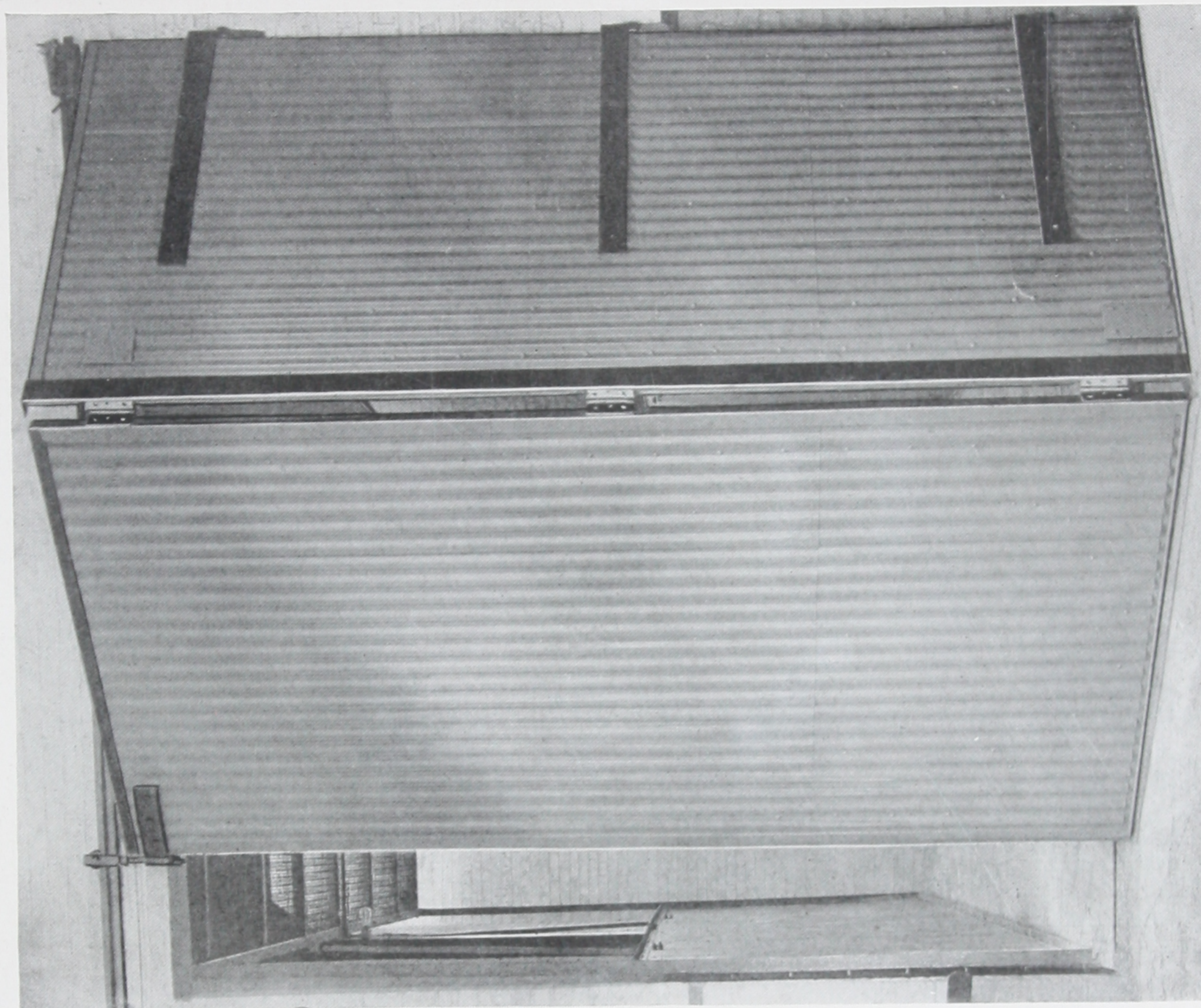




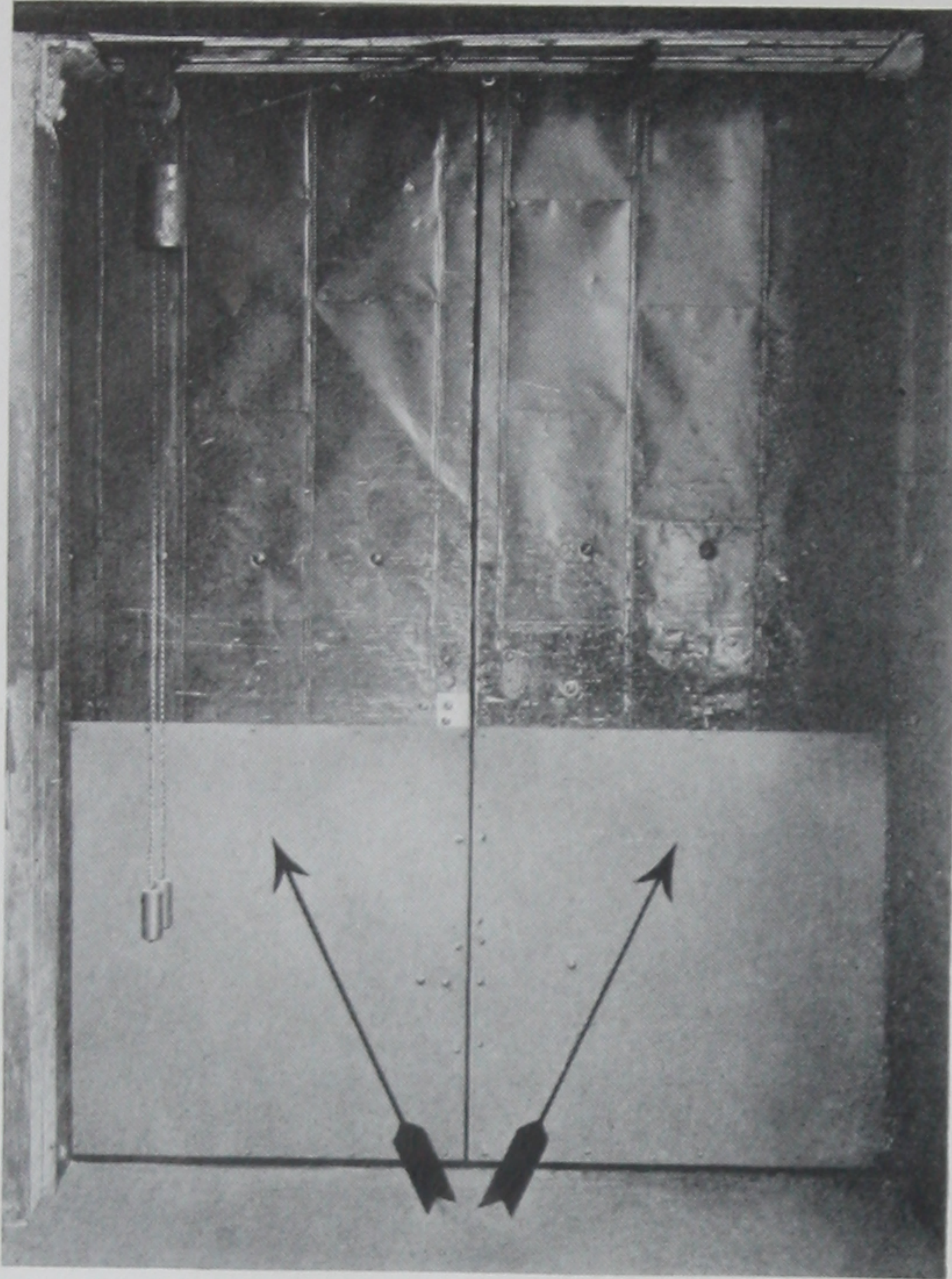
At right, Evans "Almetl" Sliding Folding Fire Doors, installed in Cushman Garage and Stable, Bronx, New York.

*NOTE.—Evans "Almetl" Doors are rigid in plane—and do not bend transversely and are indistructible in use.*

At left, Evans "Almetl" Double Swinging Fire Doors, Overlap Type, recessed for overhead wiring, installed in carpenter shop of Detroit Electric Railway Co., Detroit, Mich. Although opening is very large, viz., 12 feet six inches wide by 16 feet high, the doors operate with remarkable efficiency and ease.







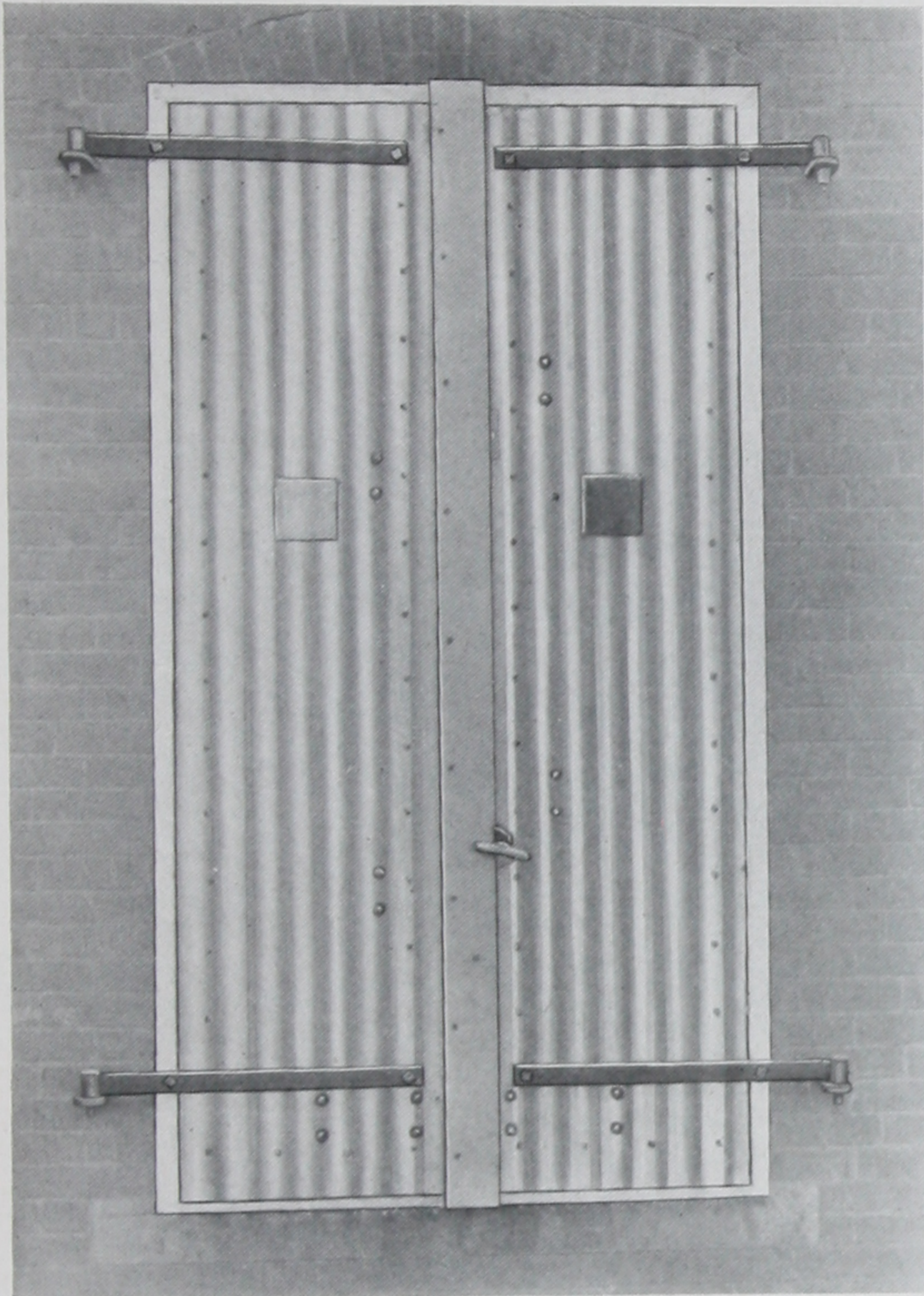
The four pictures on this page clearly illustrate some of the numerous defects of tin-clad fire doors. The upper left-hand view shows replacement of damaged tin at bottom of doors by heavy steel plates. Upper right-hand picture shows heavy steel binder put on to repair damaged edge of door. Lower left-hand picture is a view of a non-standard tin-clad fire door that was completely destroyed by spontaneous internal combustion. Lower right-hand picture shows a long series of tin-clad doors. Note badly buckled appearance of envelope or tin covering on these doors.

**Don't make a mistake and buy *this* kind of door**

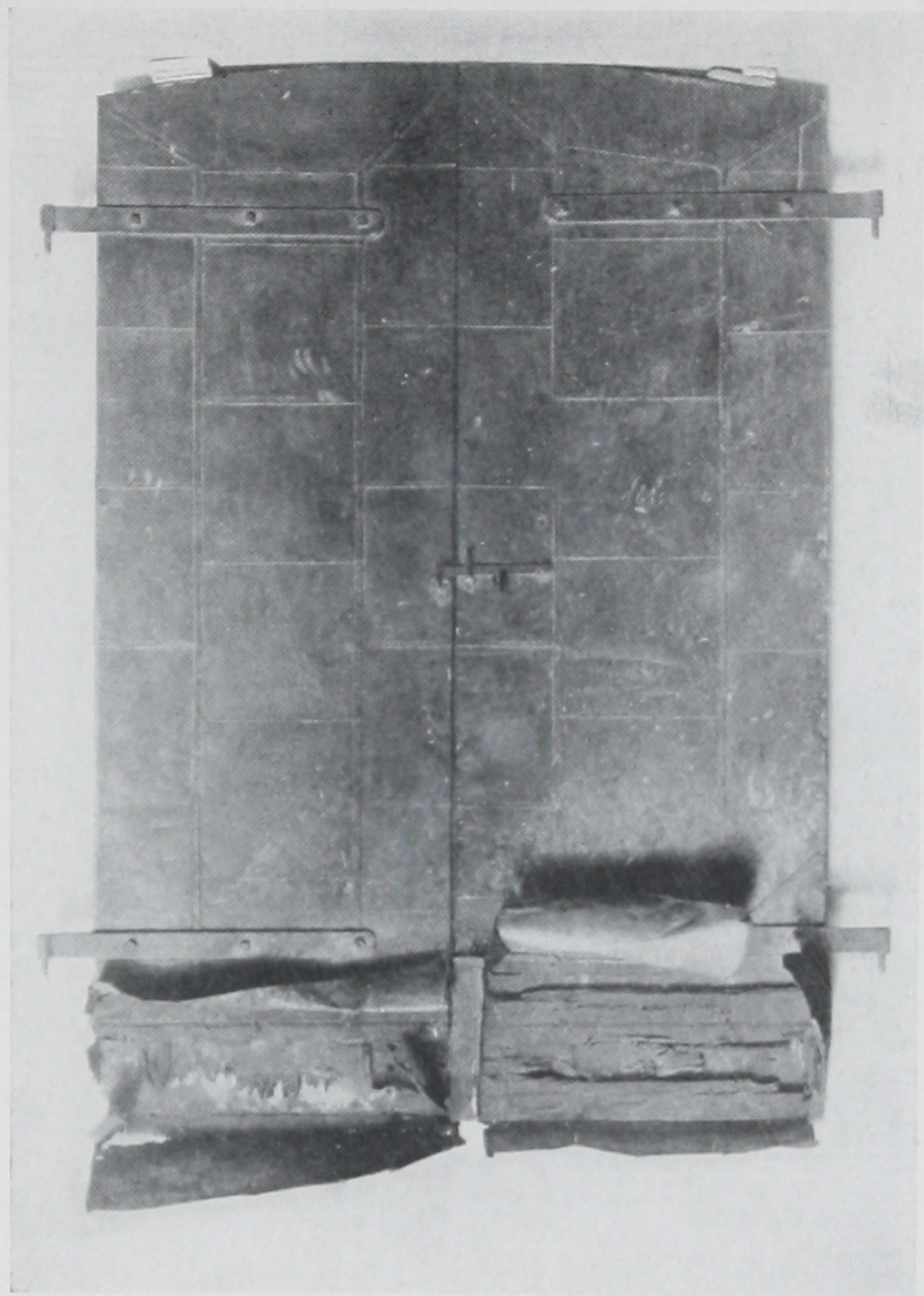


NOTE.—Evans "Almetl" Doors do not rust and are indestructible in use!





Evans "Almetl" Double Swinging Fire Shutters in closed position. Note the Astragal strip in center.



View of a pair of Tin-Clad Fire Shutters that were badly affected by dry rot.

## Evans "Almetl" Fire Shutters

(Patent Pending)

### Lightest and Best

The Evans "Almetl" Fire Shutters are fully approved by the Underwriters' Laboratories, Chicago, Ill., and the Factory Mutual Laboratories, Boston, Mass.

The construction of our Fire Shutters is designed along the lines of our Fire Doors, but they are not as wide along the edges as our doors, so as to make them suitable for the purpose intended. The reduction in width of frame lightens weight, but not strength.

In rigidity, strength, durability, ease of operation, simplicity of erection and minimum expense for maintenance, they are without an equal anywhere. We can supply fully approved hardware. Full insurance rebates are allowed for proper installation of these Shutters.

In making inquiries for Evans "Almetl" Fire Shutters, please observe in general the details that we ask for in respect to our Doors, and be sure to state whether the Shutters are for square or arch top openings, whether they are single or double, and whether flush or overlap type.

All buildings that can be reached by a fire from nearby or adjoining buildings, should be equipped with our Evans "Almetl" Fire Shutters, as they constitute the best, and therefore the least expensive, protection that can be procured for the purpose.

*NOTE.—Evans "Almetl" Shutters are rigid in plane—do not bend transversely and are indestructible in use.*



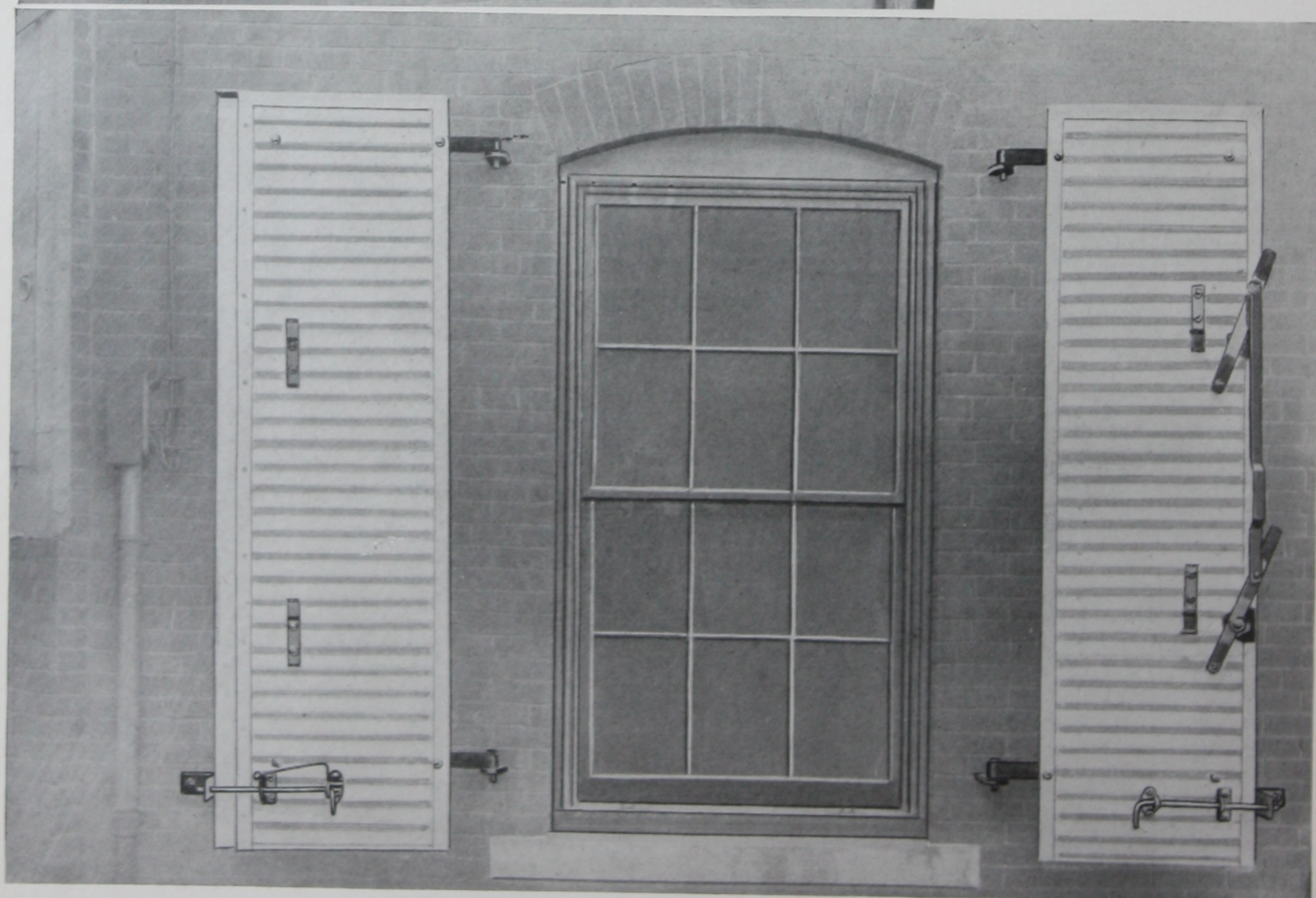


## *Do Not Rot or Rust!*

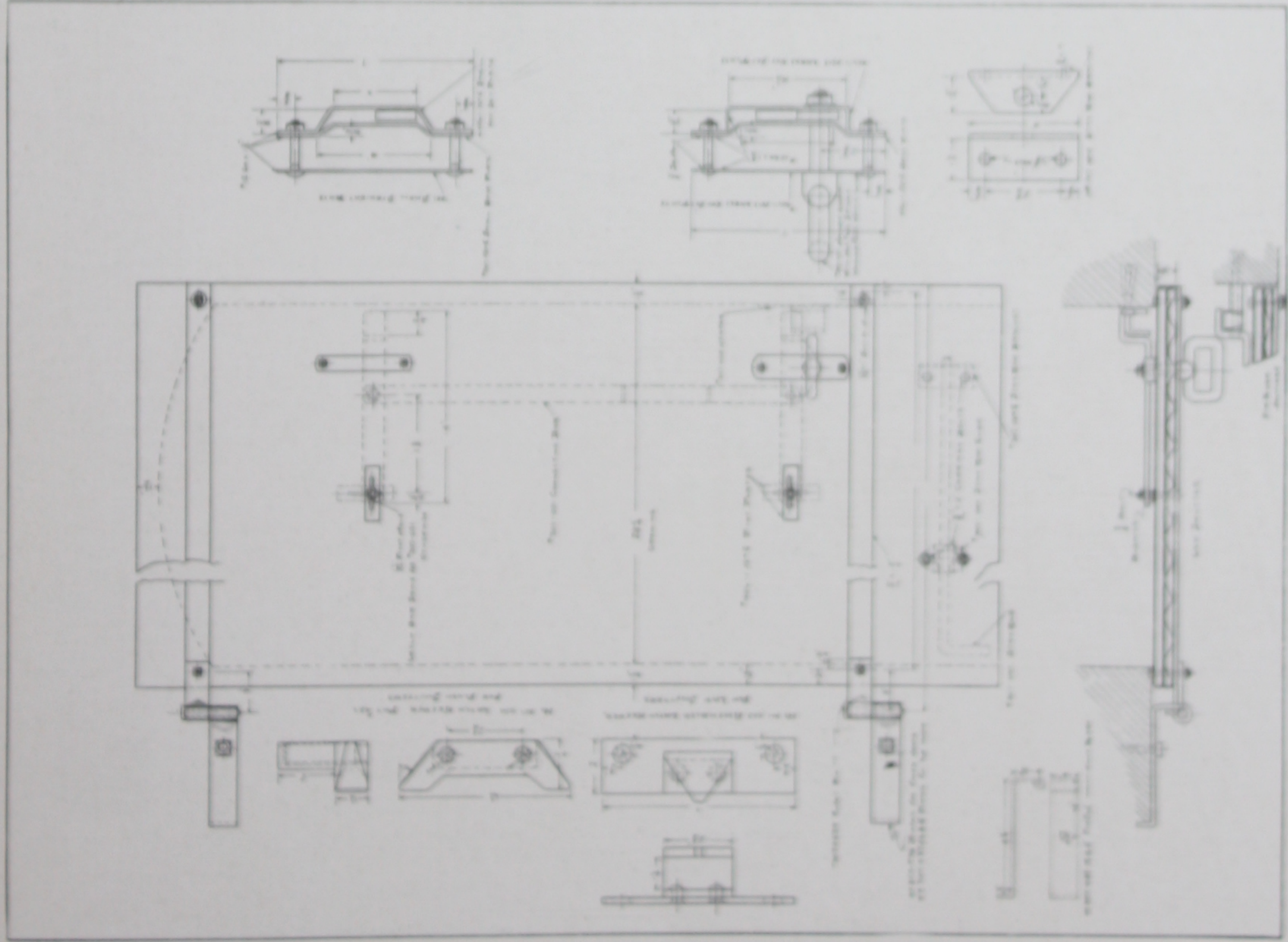
Two views of Evans "Almetl" Single Swinging Fire Shutters, Overlap Type, on building of Northeastern Storage Warehouse Co., Philadelphia.

Arrow in upper picture points to damaged tin-clad shutter. Because of dry rot it was necessary to replace Tin-clad Shutters with the "Almetl" Shutters.

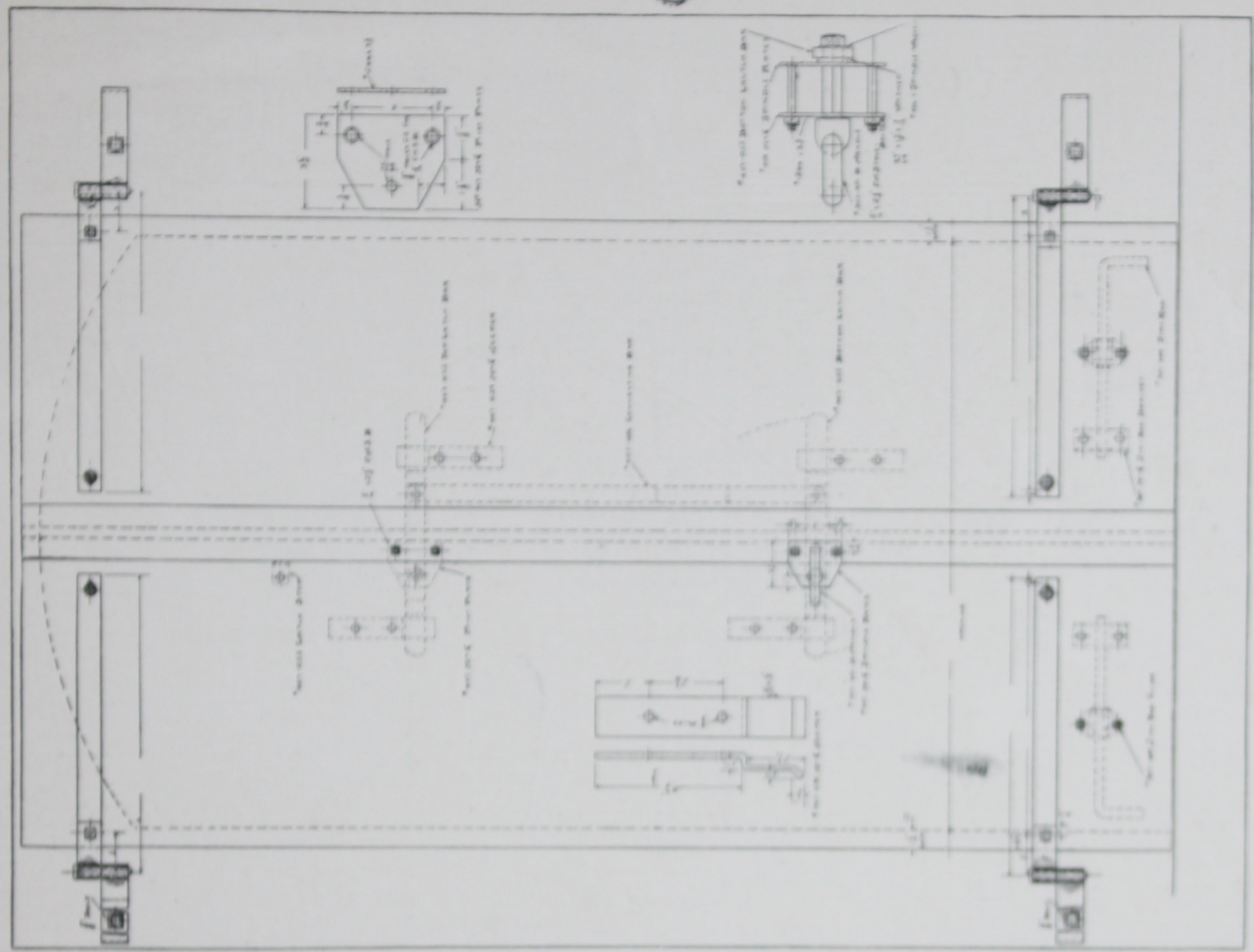
## *Indestructible In Use!*







Erection Plan for Evans "Almett" Single Swinging Fire Shutters, Overlap Type, arched top opening—using M. & E. R-W No. 307 Hardware.



Erection Plan for Evans "Almett" Double Swinging Fire Shutters, Overlap Type, arched top opening—using M. & E. R-W No. 407 Hardware.





## SMALL, PARTIAL LIST OF CONCERNS NOW USING EVANS "ALMETL" FIRE DOORS (OR SHUTTERS) IN THEIR PROPERTIES

### ARKANSAS

Kaucher Hodges & Co.....Little Rock

### COLORADO

Wm. Volker & Co.....Denver  
Colorado Tire & Rubber Co.....Denver  
La Junta Plumbing & Heating Co.....La Junta  
J. C. Robinson Seed Co.....Rocky Ford  
Charles Emerick .....Trinidad

### CONNECTICUT

N. Y., New Haven & Hart. R. Co...Danbury  
Hartford Electric Light Co.....Hartford  
Rockwell Drake Corporation.....Plainville  
Scoville Mfg. Co.....Waterbury

### DELAWARE

American Vulcanized Fibre Co.....Newark  
Kennard & Co.....Wilmington

### FLORIDA

H. N. Sulton.....Jacksonville

### GEORGIA

Duane Chair Co.....Dalton

### ILLINOIS

Joseph Knapp .....Belleville  
Otto Elliott .....Cairo  
Arnold Company .....Chicago  
Western Electric Co.....Chicago  
John Ramecke & Son.....Chicago  
George B. Swift & Co.....Chicago  
Hawkeye Compound Co.....Chicago  
Dryden Rubber Co.....Chicago  
Standard Paint Co.....Chicago Heights  
Wm. C. F. Kuhne.....Muncie  
Naperville Lounge Co.....Naperville  
Illinois Central R. R. Co.....Palestine  
Peoria Malting Co.....Peoria

### INDIANA

Rubber Regenerating Co.....Mishawaka  
John Obrecht Sons Mfg. Co.....Tell City  
Tell City Desk Co.....Tell City  
Grasselli Chemical Co.....Terre Haute  
Wm. H. Clore Mfg. Co.....Washington

### IOWA

Carstens Brothers .....Ackley  
A. J. Bridges .....Bedford  
J. J. Peterson.....Floyd  
T. F. McDonnell & Co.....Greene  
Lauritzen Construction Co.....Hazleton  
Ottumwa Supply & Construction Co.....Leon  
Iowa Hardware Mut. Ins. Bldg. Mason City  
Theodore Stark & Co.....New Hampton  
G. L. Smith.....Shell Rock  
John G. Miller.....Urbana  
Hansen & Hadley.....Waterloo  
Overland Garage Co.....Waterloo  
Peterson Brothers, Mortuary.....Waterloo  
Wartburg Publishing Co.....Waverly  
Waverly Lumber Co.....Waverly  
G. L. Smith.....Winthrop

### KANSAS

Emporia Ice & Cold Storage Co...Emporia  
E. T. Fay.....Harris  
Brownfield-Sifers Candy Co.....Iola  
Kaw Valley Cannery Co.....Lawrence  
Lawrence Paper Mfg. Co.....Lawrence  
R. L. Miller.....Mayette  
J. W. Prince.....Parsons  
Steel Fixture Mfg. Co.....Topeka  
J. H. Mitchell & Son.....Wellington  
Western Iron & Foundry Co.....Wichita

### KENTUCKY

E. E. Campbell.....Arlington  
Grain Elevator Co.....Lexington  
Leader Building .....Lexington  
Liggett & Meyers Tobacco Co...Lexington  
L. W. Hancock Co.....Louisville  
J. M. Guthrie.....Scottsville

### MARYLAND

Rasin Monumental Co.....Baltimore  
Baugh Chemical Co.....Canton

### MASSACHUSETTS

Arlington Mills .....Lawrence  
Worcester Electric Light Co...Worcester

### MICHIGAN

Detroit Ship Building Co.....Detroit  
Detroit United Railways Co.....Detroit  
Garfield Exchange .....Detroit  
Great Lakes Engineering Co.....Detroit  
Hemlock Exchange .....Detroit  
Michigan State Telephone Co.....Detroit  
Standart Brothers .....Detroit  
Studebaker Auto Corporation.....Detroit  
W. E. Wood Co.....Flint  
Brown & Sehler.....Grand Rapids  
Grand Rapids Railway Co.....Grand Rapids  
Imperial Furniture Co.....Grand Rapids  
Nichols & Cox Co.....Grand Rapids  
Wilson-Wiggins Co.....Grand Rapids  
J. Herman & Son.....Ionia

Capital Auto Co.....Lansing  
Capital State Bank Building.....Lansing  
Wolverine Auto Co.....Lansing

### MINNESOTA

E. A. Siddall .....Wells  
H. W. Lea.....Winona  
New Winona Mfg. Co.....Winona

### MISSISSIPPI

Farmers' Warehouse Co.....Oxford

### MISSOURI

Ford Motor Co.....Kansas City  
Maloney Electric Co.....St. Louis  
International Shoe Co.....St. Louis  
Century Electric Co.....St. Louis  
Henry Miltzer .....St. Louis  
Saline Electric Co.....St. Louis  
Theatre Building .....Springfield  
Dr. J. A. Crockett.....Stanbury  
Elk Hotel Building.....Trenton  
Langston Mercantile Co.....West Plains

### NEBRASKA

G. O. Fairchild.....Bertrand  
G. O. Rains.....Beatrice  
Cushman Motor Works.....Lincoln  
Lincoln Telephone & Telegraph Co. Lincoln  
Holmes-Adkins Co.....Omaha

### NEW JERSEY

Farr & Bailey Mfg. Co.....Camden  
Strandwitz & Scott.....Camden  
American Can Co.....Edgewater  
Theodore F. Baulig.....Hammonton  
Bound Brook Oil-Less Co.....Lincoln  
Millville Mfg. Co.....Millville  
Mardon, Orth & Hastings Co.....Newark  
Thomas F. Farrell.....Newton  
Botany Worsted Mills.....Passaic  
A. C. Thompson Auto Co.....Plainfield  
Matthews Construction Co.....Princeton  
John A. Roebing's Sons Co.....Trenton  
Fitzgibbon & Crisp Co.....Trenton

### NEW MEXICO

Gross-Kelly Co.....Albuquerque  
Eubank & Dibblell.....Albuquerque

### NEW YORK

Binghamton Lounge Co.....Binghamton  
E. B. Rich .....Binghamton  
Kroehler Mfg. Co.....Binghamton  
National Analine & Chemical Co. Brooklyn  
American Mfg. Co.....Brooklyn  
National Cold Storage Co.....Brooklyn  
Seavey Brothers .....Brooklyn  
Pratt & Letchworth Co.....Buffalo  
Dolgeville Felt Shoe Co.....Dolgeville  
New York Central R. R. Co.....Gardenville  
Putnam Terminal .....High Bridge  
Cushman Bakery Building.....New York City  
Mt. Vernon Telephone Sta...New York City  
Standard Paint Co.....New York City  
S. Rawitser Co.....New York City  
Certainteed Products Co.....Niagara Falls  
Allen-Herschel Co.....No. Tonawanda  
Overland Syracuse Co.....Syracuse  
Van Zandt, Jacobs & Co.....Troy

### NORTH CAROLINA

Va-Carolina Chemical Co.....Charlotte  
Kerr Bleaching & Finishing Co...Concord  
Imperial Tobacco Co.....Durham  
Robeson Mfg. Co.....Lumberton  
Ledbetter Mfg. Co.....Leak  
R. C. Lindsay Co.....Page  
Paola Cotton Mill.....Statesville

### NORTH DAKOTA

Baldwin Flour Mill.....Casselton  
Gladstone Milling Co.....Gladstone

### OHIO

The Firestone Tire & Rubber Co...Akron  
B. F. Goodrich Co.....Akron  
Park School .....Cambridge  
The Bonnot Co.....Canton  
M. Schachne & Sons.....Chillicothe  
Central Annex School.....Cleveland  
Ferro Concrete Construction Co...Cincinnati  
Conneaut Leather Co.....Conneaut  
Conneaut School Board.....Conneaut  
Culp Block .....Conneaut  
Dicks-Pontius Building.....Dayton  
Sam Albert & Brother.....Utica

### OKLAHOMA

C. C. Van Tine.....Bartlesville  
Caddo Construction Co.....Boynton  
Manhattan Construction Co...Council Hill  
Commonwealth Cotton Oil Co.....Cushing  
H. E. McCart.....Durant  
Griffin Grocery Co.....McAlester  
Russell Hardware Co.....McAlester  
William Lowe .....Okmulgee

### NEW JERSEY

Electrical Alloy Co.....Morristown

### THE PANAMA CANAL

For the U. S. Army Ordnance Depot,  
Corozal, Canal Zone

### PENNSYLVANIA

Lehigh-Portland Cement Co.....Allentown  
American Bronze Co.....Berwyn  
Barger, Baine & Munn, Inc....Bloomsburg  
Standard Steel Works Co.....Burnham  
Weissenstein Brothers .....Butler  
Charleroi Iron Works.....Charleroi  
W. S. Barstow & Co.....Easton  
Pennsylvania Utilities Co.....Easton  
Asbestos Protected Metal Co.....Economy  
Acme Wagon Works.....Emigsville  
Schuylkill Railway Co.....Girardville  
Pennsylvania R. R. Co.....Harrisburg  
Henry Mininger .....Hatfield  
The Hamilton Watch Co.....Lancaster  
Krupp Foundry Co.....Lansdale  
Atlantic Refining Co.....Philadelphia  
Harrison Brothers & Co.....Philadelphia  
McCaffrey File Co.....Philadelphia  
Edward C. Budd Mfg. Co.....Philadelphia  
Jessup & Moore Paper Co.....Philadelphia  
Keystone Spinning Mills.....Philadelphia  
Northern Liberties Gas Co.....Philadelphia  
Northeast Stor. Warehouse Co. Philadelphia  
Phila. & Reading R. Co.....Philadelphia  
H. C. Rea Building.....Philadelphia  
Roberts & Mander Stove Co...Philadelphia  
Schaum & Uhlinger Co.....Philadelphia  
Sun Shipbuilding Co.....Philadelphia  
Taubel Brothers .....Philadelphia  
The Bell Co. Warehouse.....Philadelphia  
D. B. Martin Co.....Philadelphia  
Manufacturing Co. of America. Philadelphia  
Henry Y. Mitchell Co.....Philadelphia  
India Refining Co.....Philadelphia  
Concrete Construction Co.....Philadelphia  
Pennsylvania Railroad Co.....Philadelphia  
Barrett Mfg. Co.....Philadelphia  
Frankford, Tacony & Holmesburg R. Co., Philadelphia  
John Wanamaker .....Philadelphia  
Floyd Wells Co.....Royersford  
Susquehanna Silk Mills.....Sunbury  
L. H. Gillmer & Co.....Tacony  
F. D. Beyer & Co.....Tyronne  
Uniontown Hospital .....Uniontown

### SOUTH CAROLINA

Cotton Oil Co.....Bamberg  
The Wateree Mills.....Camden  
Va-Carolina Chemical Co.....Charleston  
Gallivan Building Co.....Columbia  
Addison Mills .....Edgefield  
Winnesboro Mills .....Winnesboro

### TENNESSEE

Harlan-Morris Mfg. Co.....Jackson  
Kaucher, Hodges & Co.....Memphis  
Orgill Brothers Co.....Memphis  
Patterson Transfer Co.....Memphis  
Valley Cotton Oil Co.....Memphis  
Memphis Motor Co.....Memphis  
Memphis Terminal Corporation...Memphis

### TEXAS

Overland Texas Company.....Amarillo  
J. W. Singleton.....Amarillo  
City of Aransas Pass.....Aransas Pass  
Brydson Brothers .....Austin  
H. C. Hellmuth .....Bellville  
H. T. Ponsford & Sons.....El Paso  
City of Hearne.....Hearne  
Municipal Warehouse .....Houston  
Lockhart Oil & Gin Co.....Lockhart  
Landa Cotton Oil Co.....New Braunfels  
M. P. Kelley.....Paris  
Paris Building & Supply Co.....Paris  
Cameron Water Pwr. & Lt. Co. San Antonio  
Firestone Building .....San Antonio  
City & County Hospital.....San Antonio

### VIRGINIA

John H. Heald & Co.....Bradford  
Riverside Cotton Mills.....Danville  
Cameron Dunlap .....Drakes Branch  
Norfolk Warehouse Corporation...Norfolk  
British-American Tobacco Co...Richmond  
Kings & Co.....Richmond  
Export-Leaf Tobacco Co.....Richmond  
W. S. Ragland.....Richmond  
Va-Carolina Chemical Co.....Richmond

### WEST VIRGINIA

Interwoven Mills .....Martinsburg  
Globe Automatic Sprinkler Co...Warwood  
Bell Telephone Co.....Wheeling  
Central District Telephone Co...Wheeling

### WISCONSIN

Fond du Lac Church Fur. Co...Fond du Lac

### WYOMING

Sheridan Iron Works.....Sheridan

*Insist on Evans "Almetl"—join this list of satisfied users.*





# STAR VENTILATORS

PATENTED



are extensively used on many of the most notable buildings in America, while the other Merchant & Evans specialties, briefly described on the following pages—**High Grade Roofing Plates, Metal Spanish Tiles and Metal Gothic Shingles**—are almost as well known.

Back of these products stands over a quarter century of satisfactory service in all parts of the country.

Among the most prominent users of Star Ventilators, we note such firms as:

## Partial List of very prominent users of Star Ventilators:

National Steel Car Co., Hamilton, Can.  
Berlin Construction Co., Berlin, Conn.  
American Brass Co., Torrington, Conn.  
E. I. DuPont de Nemours Powder Co., Wilmington, Del.  
Southern Railway Co., Washington, D. C.  
U. S. Government, practically all departments.  
Armour & Co., Chicago, Ill.  
Chicago & Northwestern R. R. Co., Chicago.  
Cudahy Packing Co., Chicago, Ill.  
Fairbanks, Morse & Co., Chicago, Ill.  
Marshall Field & Co., Chicago, Ill.  
Gulf, Colorado & Santa Fe R. Co., Chicago.  
Texas Co., Chicago, Ill.  
Pere Marquette R. R. Co., Detroit, Mich.  
Buhl Sons & Co., Detroit, Mich.

Crane Co., St. Louis, Mo.  
Illinois Steel Co., Chicago, Ill.  
John A. Roebling's Sons Co., Trenton, N. J.  
Lackawanna Steel Co., Buffalo, N. Y.  
American Bridge Co., New York.  
British American Tobacco Co., New York.  
Lehigh Valley R. R. Co., New York.  
New Jersey Zinc Co., New York.  
Newport News Ship Building & Dry Dock Co., New York.  
New York Central R. R. Co., New York.  
Old Dominion Steamship Co., New York.  
Tidewater Oil Co., New York.  
American Locomotive Co., Schenectady, N.Y.  
General Electric Co., New York.  
Utica State Hospital, Utica, N. Y.  
LaBelle Iron Works, Steubenville, Ohio.

American Car & Foundry Co., Berwick, Pa.  
Lehigh Coal & Navigation Co., Philadelphia.  
Pennsylvania R. R. Co., Philadelphia.  
Philadelphia & Reading R. R. Co., Phila.  
American Sheet & Tin Plate Co., Pittsburg.  
Carnegie Steel Co., Pittsburg, Pa.  
Delaware, Lackawanna & Western R. R. Co., Plymouth, Pa.  
Swarthmore College, Swarthmore, Pa.  
Hampton Normal & Agricultural Institute, Hampton, Va.  
Seaboard Air Line Co., Norfolk, Va.  
Virginian R. R. Co., Norfolk, Va.  
Imperial Tobacco Co., Richmond, Va.  
Virginia-Carolina Chemical Co., Richmond.  
Norfolk & Western R. R. Co., Roanoke, Va.

## WE CLAIM

**"STAR" Ventilators will give MORE CUBIC FEET air exhaust capacity per DOLLAR INVESTED, under like conditions of service and of equal construction strength, THAN ANY OTHER MAKE OF VENTILATOR.**

## 1,000,000 Star Ventilators in use

There are many reasons for "Star" dominance in the Ventilator field.

*First*—"Star" Ventilators give maximum exhaust—viz., more cubic feet air exhaust capacity per dollar invested than any other Ventilator. They keep the air in motion, exhausting and expelling impure air and circulating the fresh air which replaces it.

*Second*—There is no possibility of down draughts with the "Star."

*Third*—The "Star" is storm proof.

*Fourth*—The "Star" is more pleasing in design than any other ventilator.

*Fifth*—The "Star" is more durable.

*Sixth*—The "Star" Fire Retarding Ventilators contain within themselves dampers held open by a chain with a fusible link, against gravity. In case of fire, dampers automatically close, cutting off the exhaust, hence are a recognized medium of safety in event of internal combustion, constituting in fact a series of safety valves. After the fire is extinguished the chain device permits the ventilators to be readily opened, thus clearing the building of smoke, gases, etc.

*Seventh*—The "Star" Fire Retarding Skylight Ventilator distributes light through a section made up of heavy wired glass.



Woolworth Building, New York



Municipal Building, New York





## TABLE OF SIZES

### Galvanized New Standard "Star" Ventilators

Size	Gauge Steel	Net Wt. Pounds
3 inch	26	$\frac{5}{8}$
4 "	26	1
5 "	26	$1\frac{1}{2}$
6 "	26	$2\frac{1}{4}$
7 "	26	3
8 "	26	$4\frac{1}{2}$
9 "	26	5
10 "	26	$6\frac{3}{4}$
12 "	24	11
14 "	24	14
16 "	24	20
18 "	22	$27\frac{1}{2}$
20 "	22	34
22 "	22	36
24 "	22	44
28 "	20	69
30 "	20	84
36 "	20	117
40 "	20	145
42 "	20	150
48 "	20	200
54 "	18	288
60 "	18	355
72 "	18	570
84 "	18	828
96 "	18	924

Net prices sent upon application to any office of the Company.

Ventilators of stock sizes above or of special designs, made in Galvanized Steel, Copper or other metals specified by purchasers.



New Standard "Star" Ventilator with Base



Wagner Bakery, Detroit, Mich., showing a few of the "Star" Ventilators in use.

## Types of "Star" Ventilators

The four standard types of "Star" Ventilators are:

1. New Standard "Star" Ventilator.
2. New Fire Retarding "Star" Ventilator.
3. Skylight "Star" Ventilator.
4. Fire Retarding Skylight "Star" Ventilator.

These Ventilators are usually made from galvanized steel or iron, and from copper.

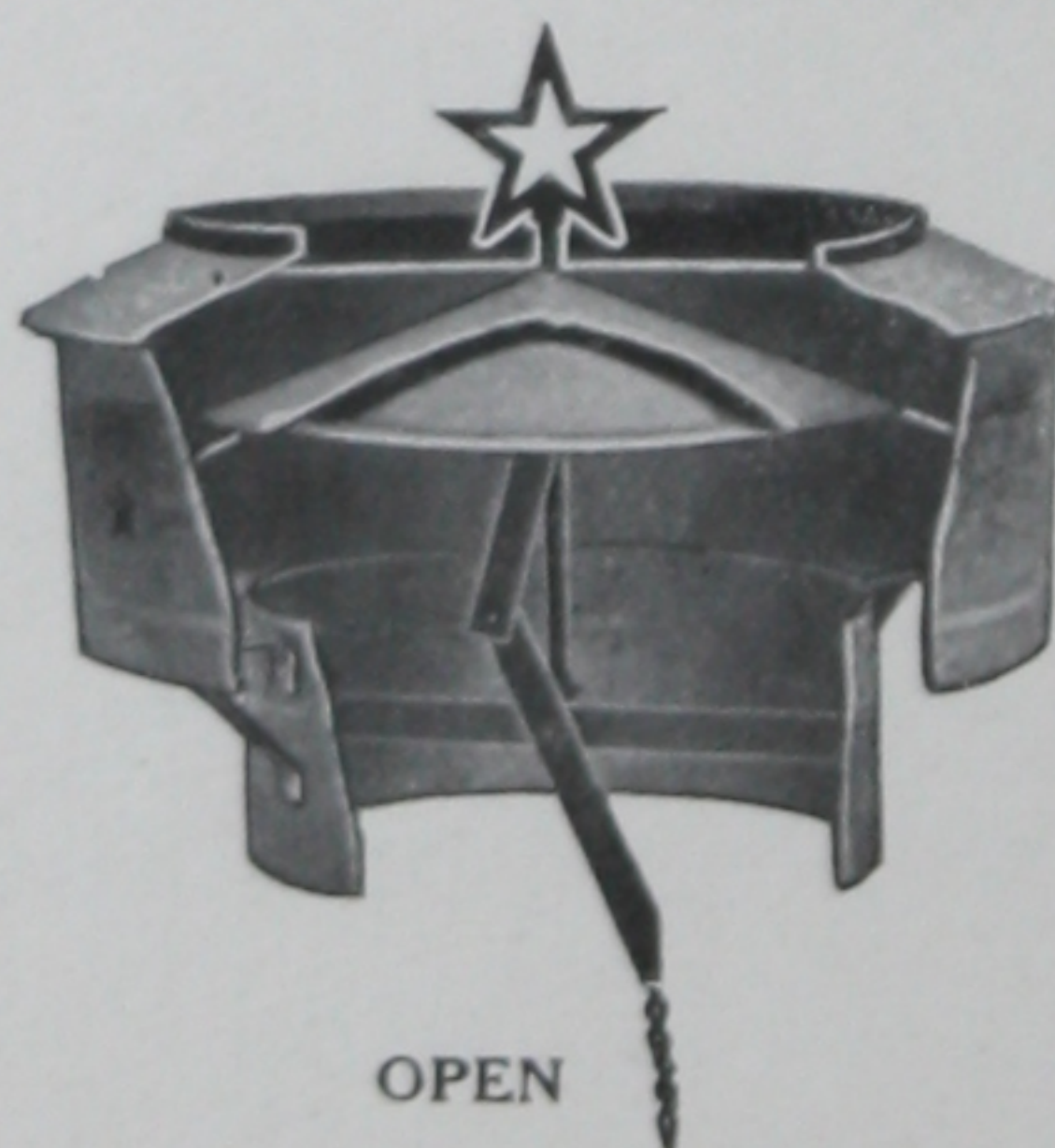
In connection with the Ventilator we can furnish the following:

1. Regulation bases for any roof—to fit chimneys, etc.
2. Special bases for peculiar conditions, of any design desired.
3. Flat disc dampers to fit any base, hand-controlled by chain through opening.

**Important.**—We strongly recommend that "Star" Ventilators be located at least 30 inches above ridge or slope of roof. Best results are obtained by locating Ventilator at highest possible point **above** the ridge.

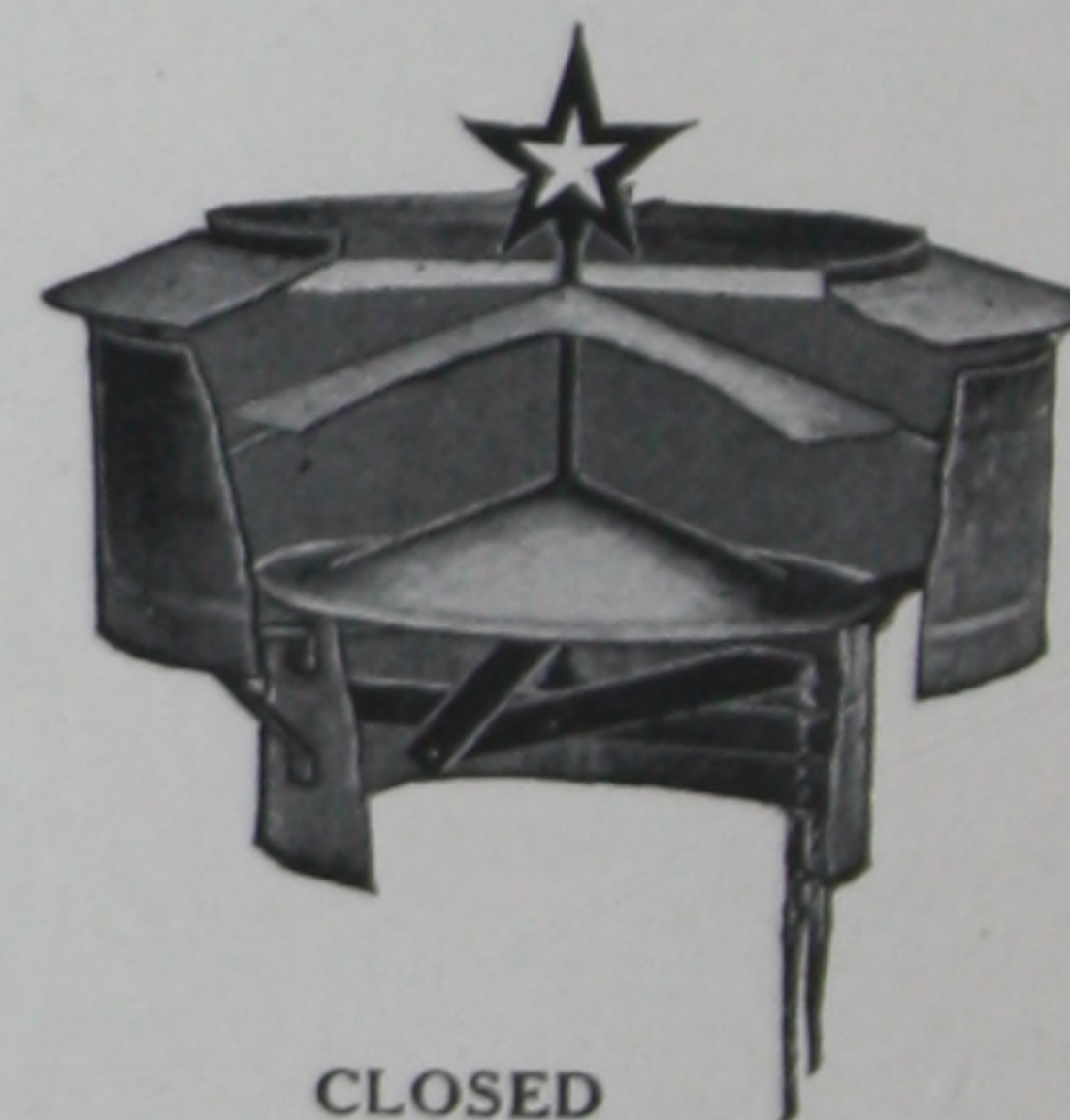
## Fire Retarding "Star" Ventilator

With Patented Gravity Damper



OPEN

The vertical slide Damper operates by lever movement, controlled by chain with fusible link. In case of fire, link parts and damper drops to closed position by force of gravity, cutting off all draft. Damper can be regulated by disengaging chain from control hook.



CLOSED

## Fire Retarding Skylight "Star" Ventilator

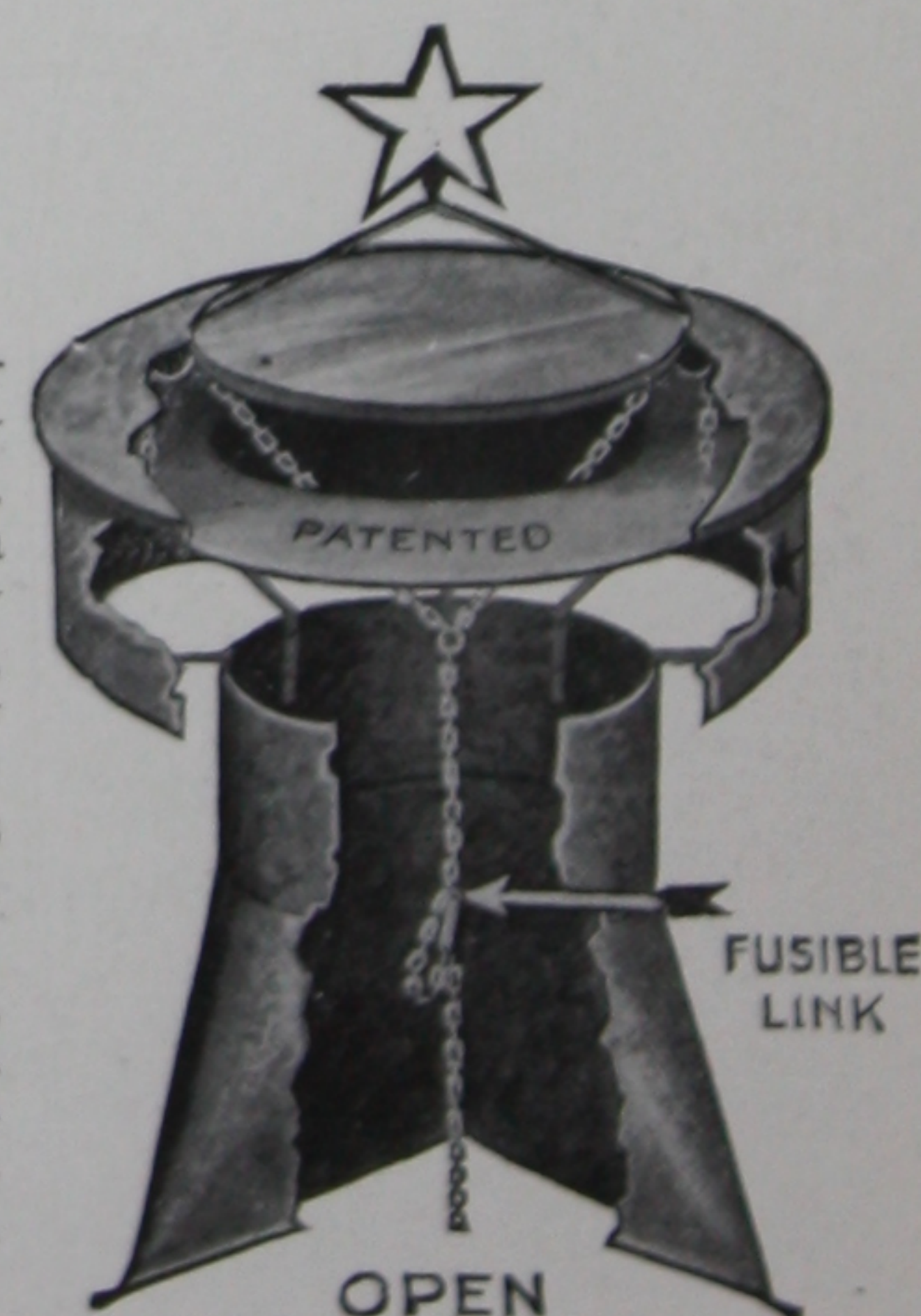
(Patented)

This device is recognized as a superior Skylight and Ventilator. It is absolutely weather proof with ample exhaust capacity.

This Skylight Model, provided with a movable Valve or Damper, is controlled by chain with a Fusible Link. In case of fire, the link parts and the Damper drops by gravity.

The movable Valve or Damper in this type can be changed, at will, from an open to a closed position, or vice versa.

**Notice.**—The above types of Ventilators and Dampers are protected in certain features by patents, and by our universally well-known, distinctive trade-mark, and by the "Star" appearing on top of the Ventilator.

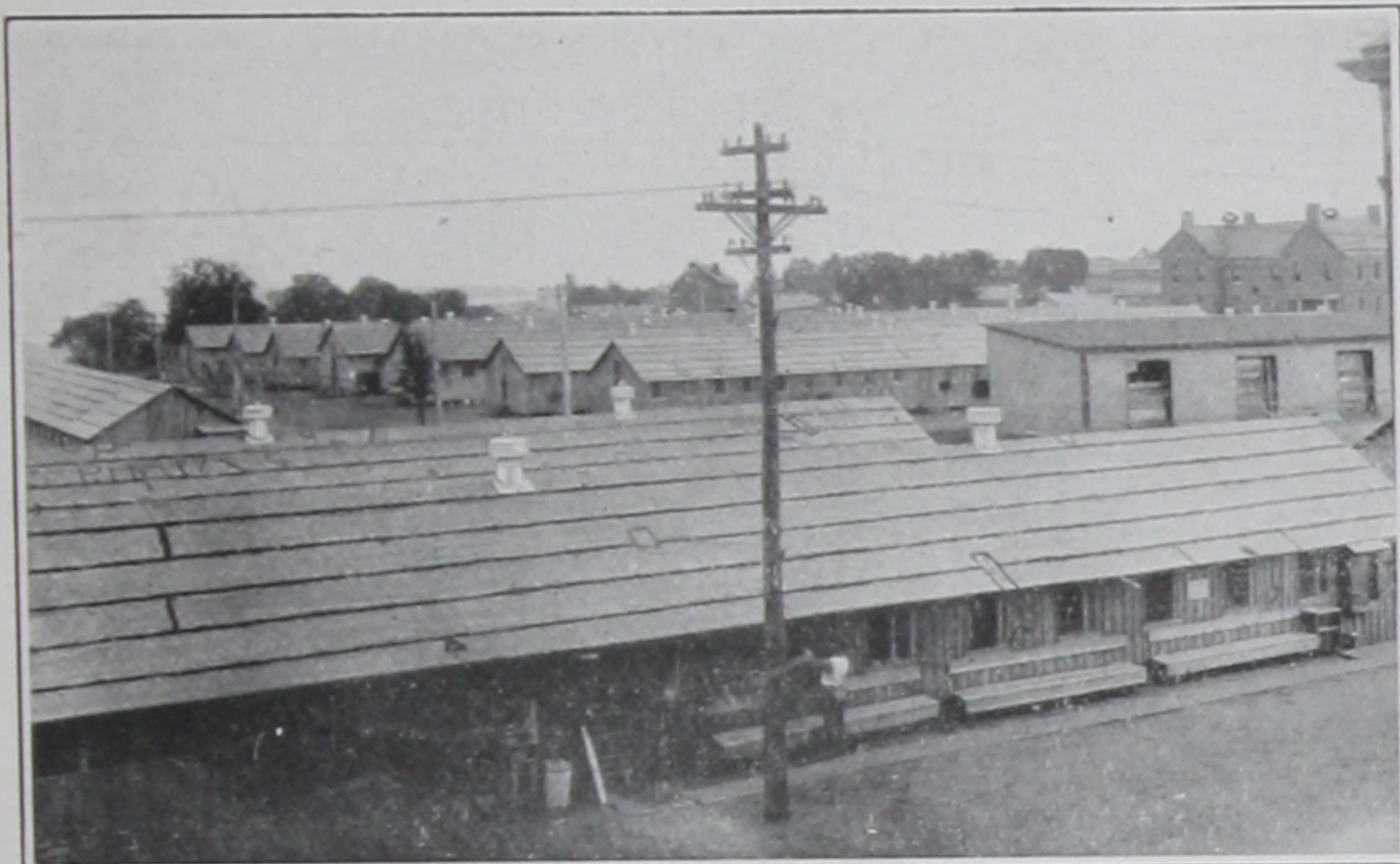


OPEN





# Efficient Ventilation



PLATTSBURG BARRACKS, N. Y.

Efficient ventilation is secured through the installation of a ventilator, the cost and maintenance charges of which are in direct proportion to the amount of exhaust obtainable.

The improved "Star" Ventilators have been designed with this basic principle in mind. They are therefor the simplest, most compact and most efficient ventilators in design, compared with cost, in the market—the cheapest investment in ventilation procurable in the country.

To other ventilators have been added complex and expensive improvements. They have been mounted on higher bases so as to give greater access to outer air currents, but the increase in exhaust power has not kept pace with the increase in cost.

By adhering strictly to the simplicity of our design and using a ventilator of larger size where an increased exhaust power is demanded, we are able to keep the cost per foot of exhaust at the minimum rate, which is lower than that of any ventilator of similar or more complex design, on the market.

Our facilities for the production and marketing of our improved "Star" Ventilators were never better. We are prepared to solve the most difficult problems of ventilation with the best designed ventilator on the market.

## WE CLAIM

**"STAR" Ventilators will give MORE CUBIC FEET air exhaust capacity per DOLLAR INVESTED, under like conditions of service and of equal construction strength, THAN ANY OTHER MAKE OF VENTILATOR.**

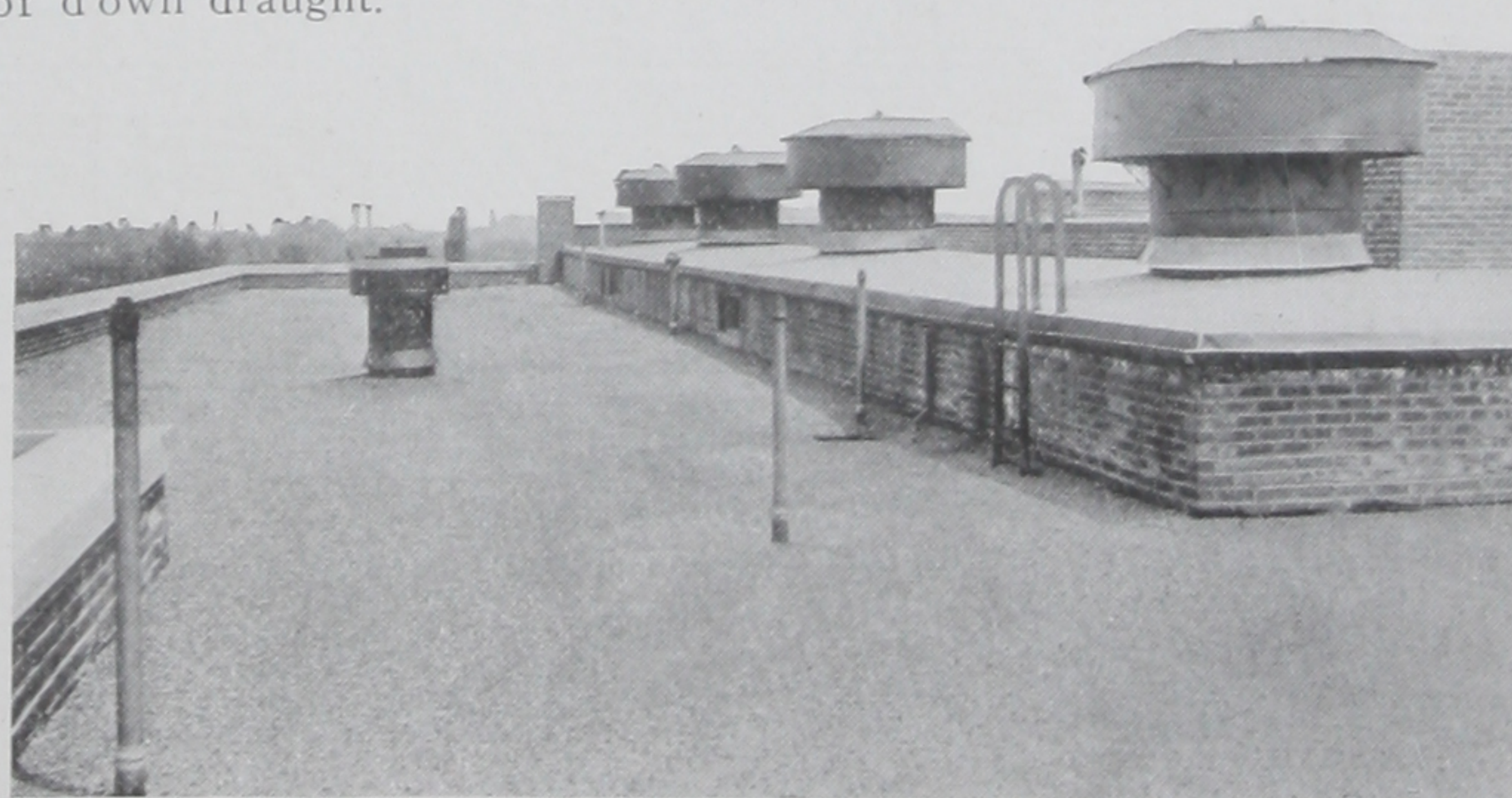
## Pointers on Good Ventilation

The purpose of ventilation is to exhaust vitiated or foul air from an enclosed area and admit fresh, pure air to replace it. "Star" Ventilators exhaust foul air without possibility of down draught.

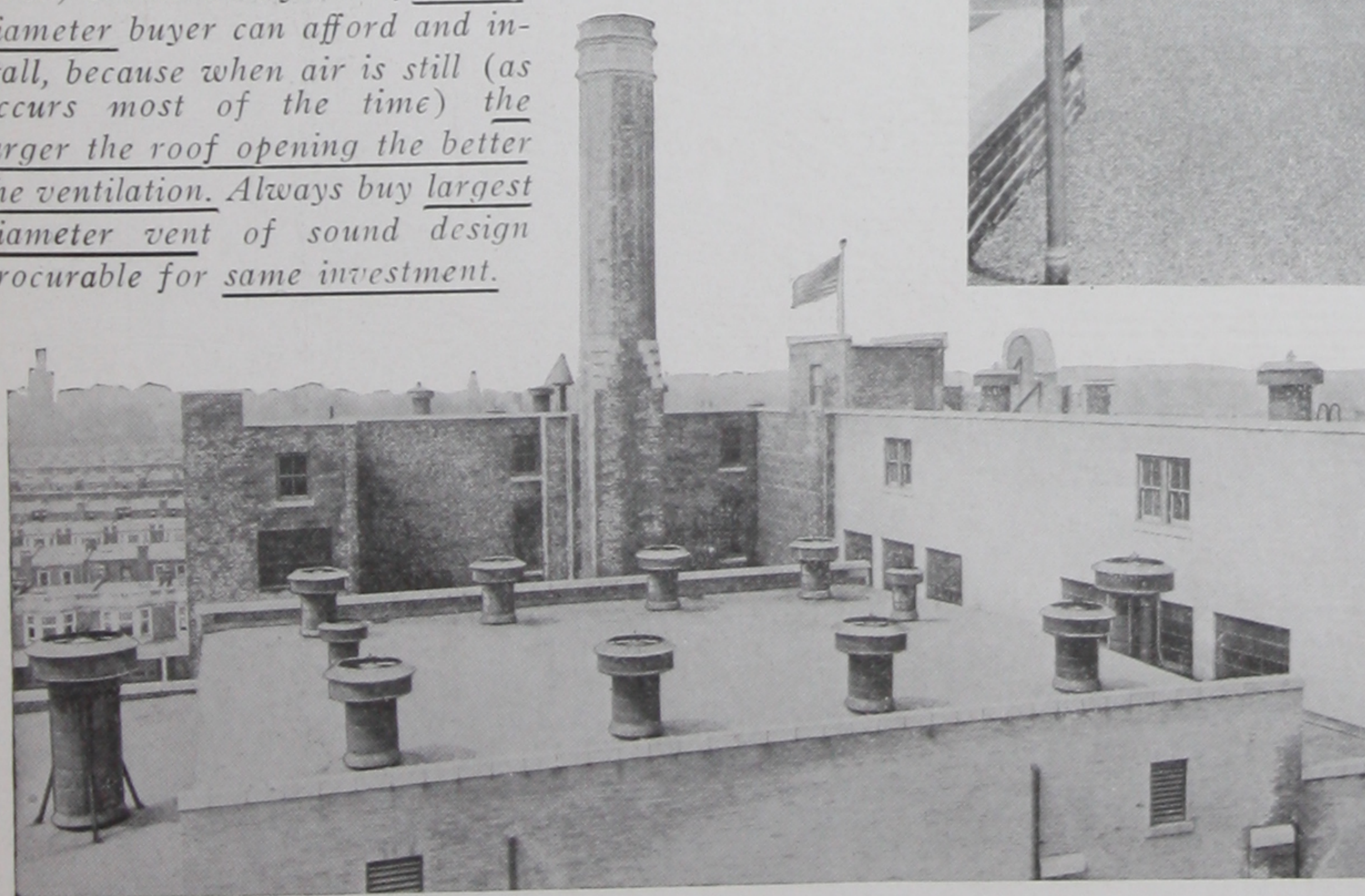
Fuel is saved by such proper ventilation, and efficiency of the work force assured.

Modern ventilation practice is based on a minimum supply of 30 cubic feet of air per minute per person in area to be ventilated.

*NOTE.—Static ventilators (like these) should always be of largest diameter buyer can afford and install, because when air is still (as occurs most of the time) the larger the roof opening the better the ventilation. Always buy largest diameter vent of sound design procurable for same investment.*



KENSINGTON HIGH SCHOOL, PHILADELPHIA.



MITCHELL PUBLIC SCHOOL, PHILADELPHIA.

The following schedule of air supply per hour per person is practical under ordinary conditions:

	Cu. Ft. per Hour
Hospitals .....	3600 per Bed
Legislative Assembly	
Halls .....	3600 " Seat
Barracks, Bedrooms and	
Workshops .....	3600 " Person
Schools and Churches...	2400 " "
Theatres and Ordinary	
Halls of Audience...	2400 " Seat
Office Rooms .....	1800 " Person
Dining Rooms .....	1800 " "

Above does not apply to all cases, but is a good, practical working basis.





# "Merchant's Old Method" ROOFING TIN

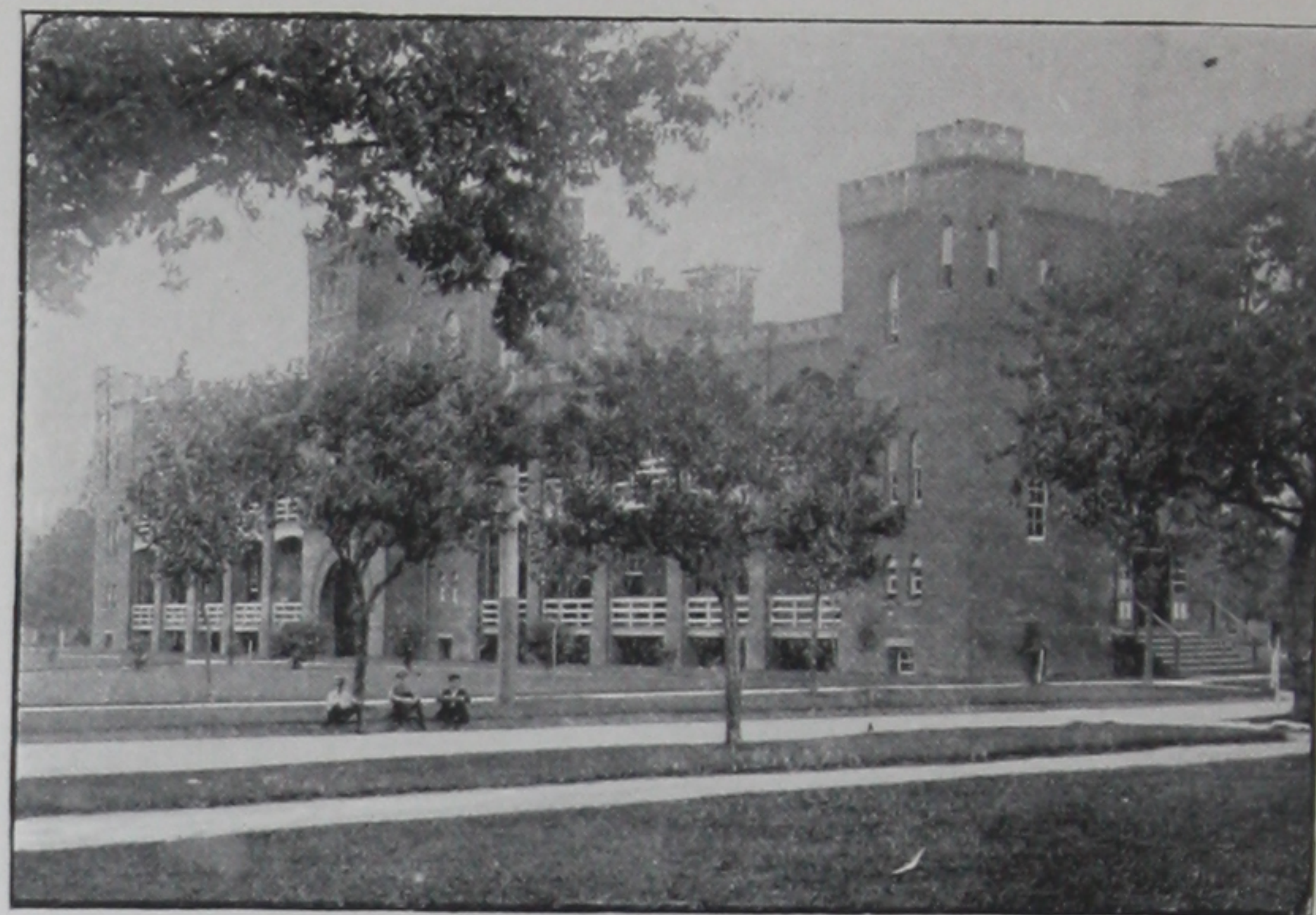
has been the accepted standard quality roofing plate for the last quarter of a century.

When properly applied, it makes a roof that is light, clean, sanitary and a thorough protection from fire, lightning and storm.

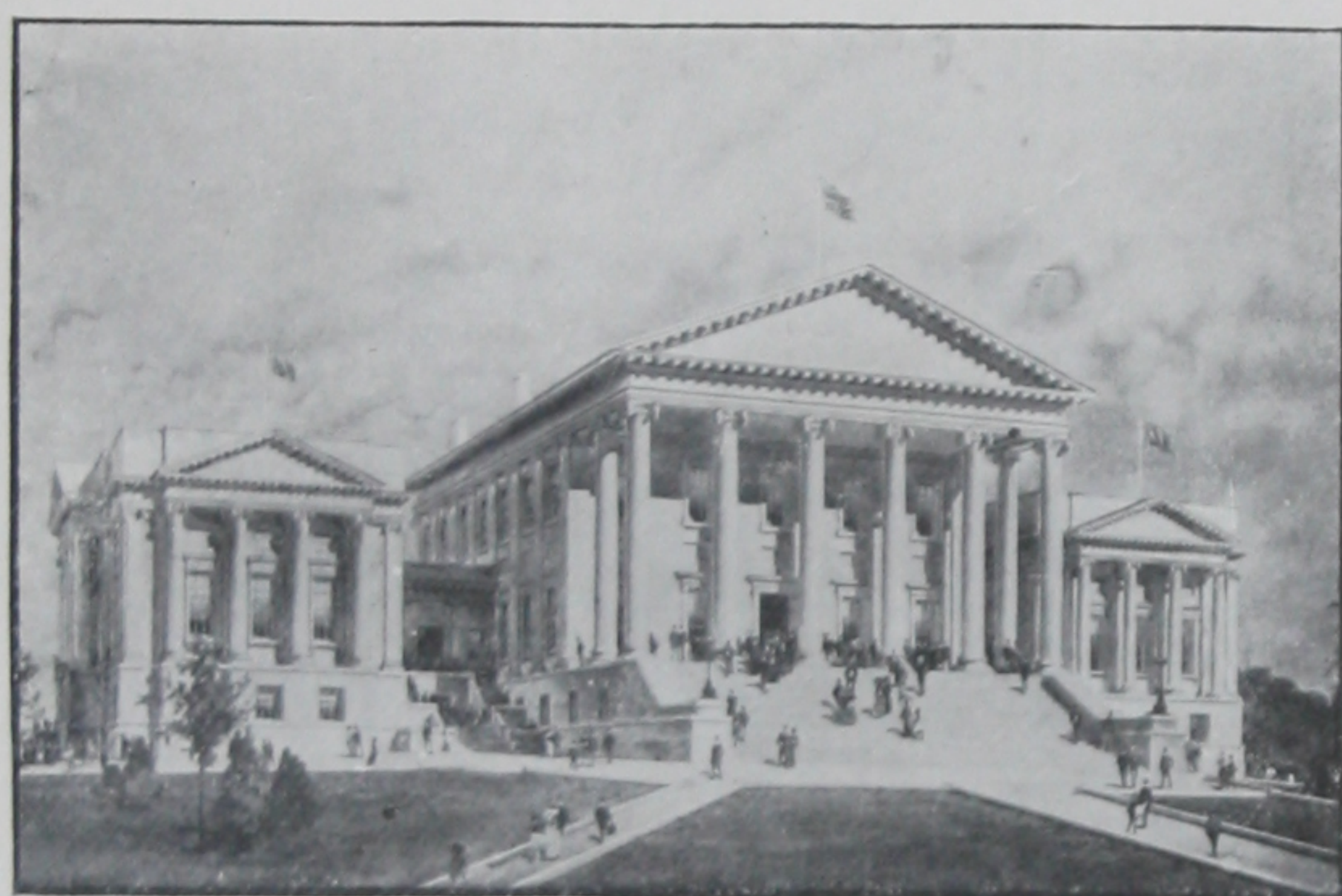
**Copper Bearing Base**

**Very Heavy Coating**

**Palm Oil Process**



NATIONAL SOLDIERS' HOME (VA.), COVERED WITH 6,500 SQ. FT. "MERCHANT'S OLD METHOD."



STATE CAPITOL, RICHMOND, VA., COVERED WITH 10,000 SQ. FT. "MERCHANT'S OLD METHOD."

As compared with Wooden Shingles and Composition or Slag and Gravel Roofing, Tin Roofs are superior for the following reasons:

**Absolutely Fireproof**  
**Salvage**  
**Appearance**  
**Durable**  
**Adaptable**  
**Minimum Weight**  
**Flexible**

**Low First Cost**  
**Sanitary**  
**Weather Proof**  
**Lightning Proof**  
**Low Insurance**  
**Minimum Cost of Maintenance**

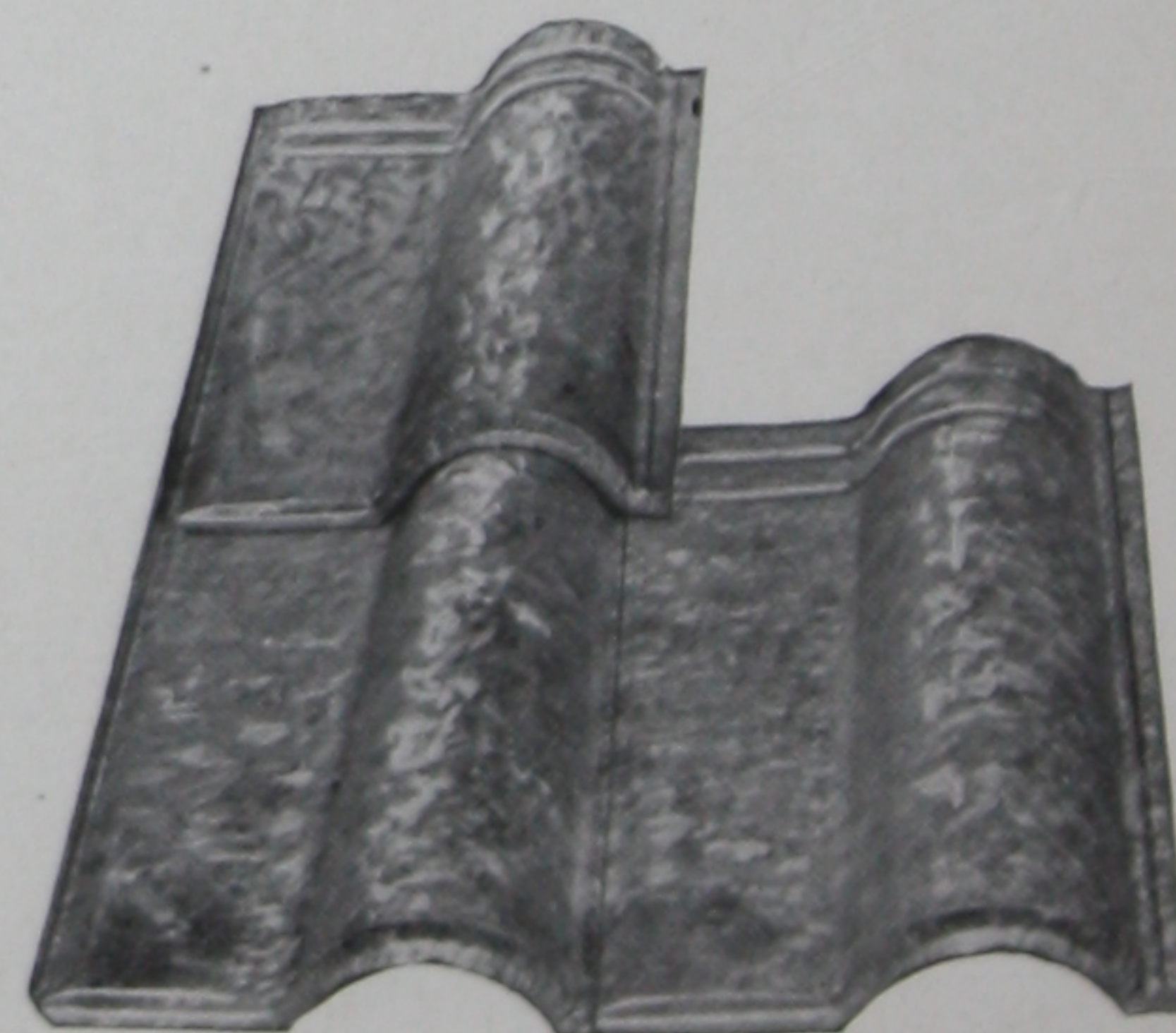
## Merchant's Metal SPANISH TILES

when properly applied, make a storm-proof, ornamental, fire-resisting roof. The fact that millions of square feet of these Tiles have been sold and that universal satisfaction has been given wherever they have been used is an indication of their merit and worth as roofing material.



SHOWING APPLICATION OF "GOTHIC" SHINGLES.

### Merchant's "Gothic" Shingles



SHOWING APPLICATION OF "SPANISH" TILES.

Offer full protection against fire and storm. They are especially designed for churches, residences and other buildings where a roof of moderate price and distinctive appearance is desired. They can be applied more readily than any other form of metal roofing.

We will gladly send samples and prices upon request.



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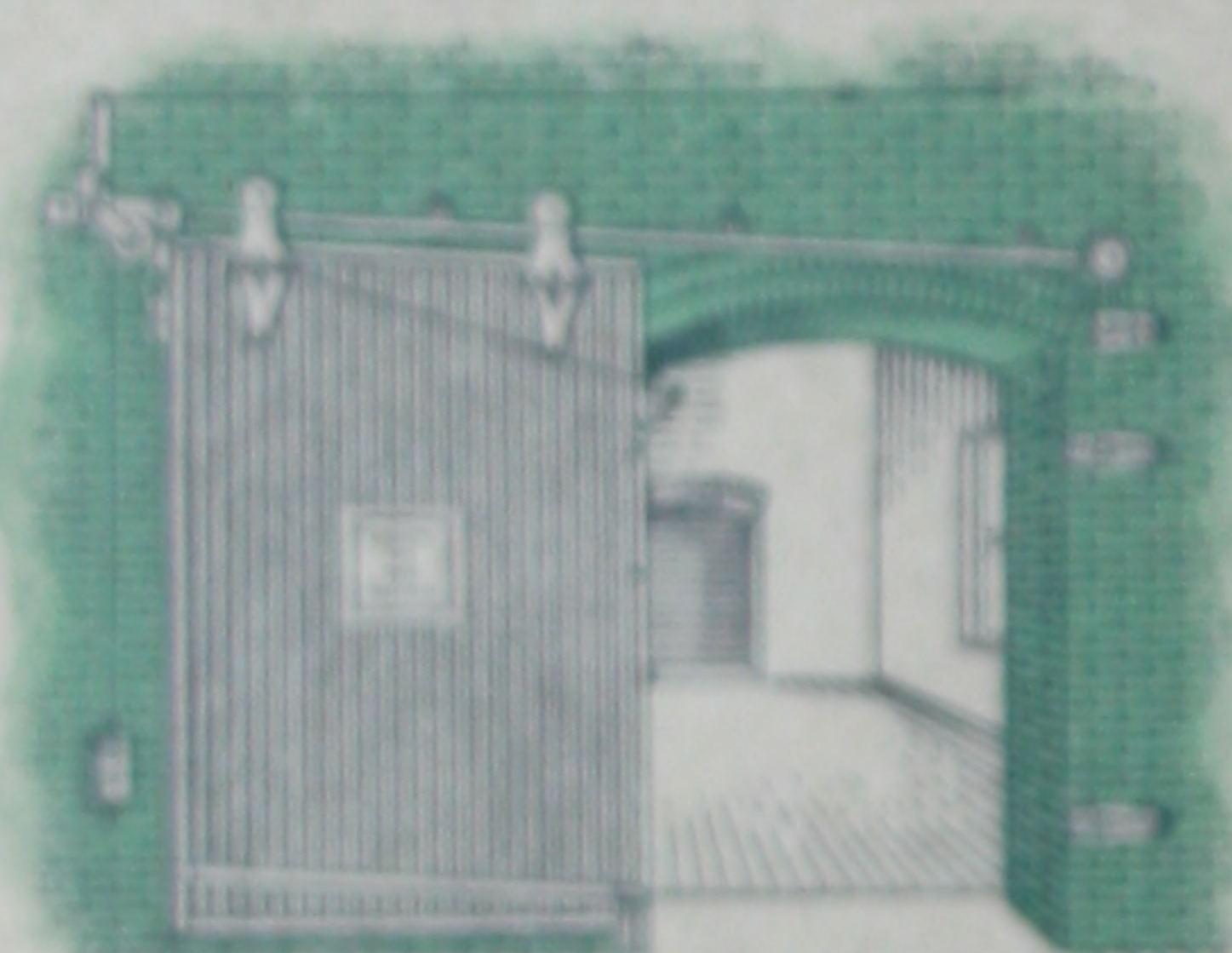


# EVANS "ALMETL"

## FIRE DOORS & SHUTTERS

AND THE FAMOUS

## "STAR" VENTILATORS



EVANS "ALMETL" FIRE DOOR

POWELL EVANS, PRESIDENT.

# MERCHANT & EVANS Co

NEW YORK

PHILADELPHIA

WHEELING

BALTIMORE

CHICAGO

ATLANTA

ST. LOUIS

CLEVELAND

KANSAS CITY

